RECOMMENDED COMPONENTS

OVER 450 PRODUCTS RANKED & RATED

stereophile

ONLINE AUTHORITY: STEREOPHILE.COM

EMM LABS MTRS IRRESISTIBLE FORCE

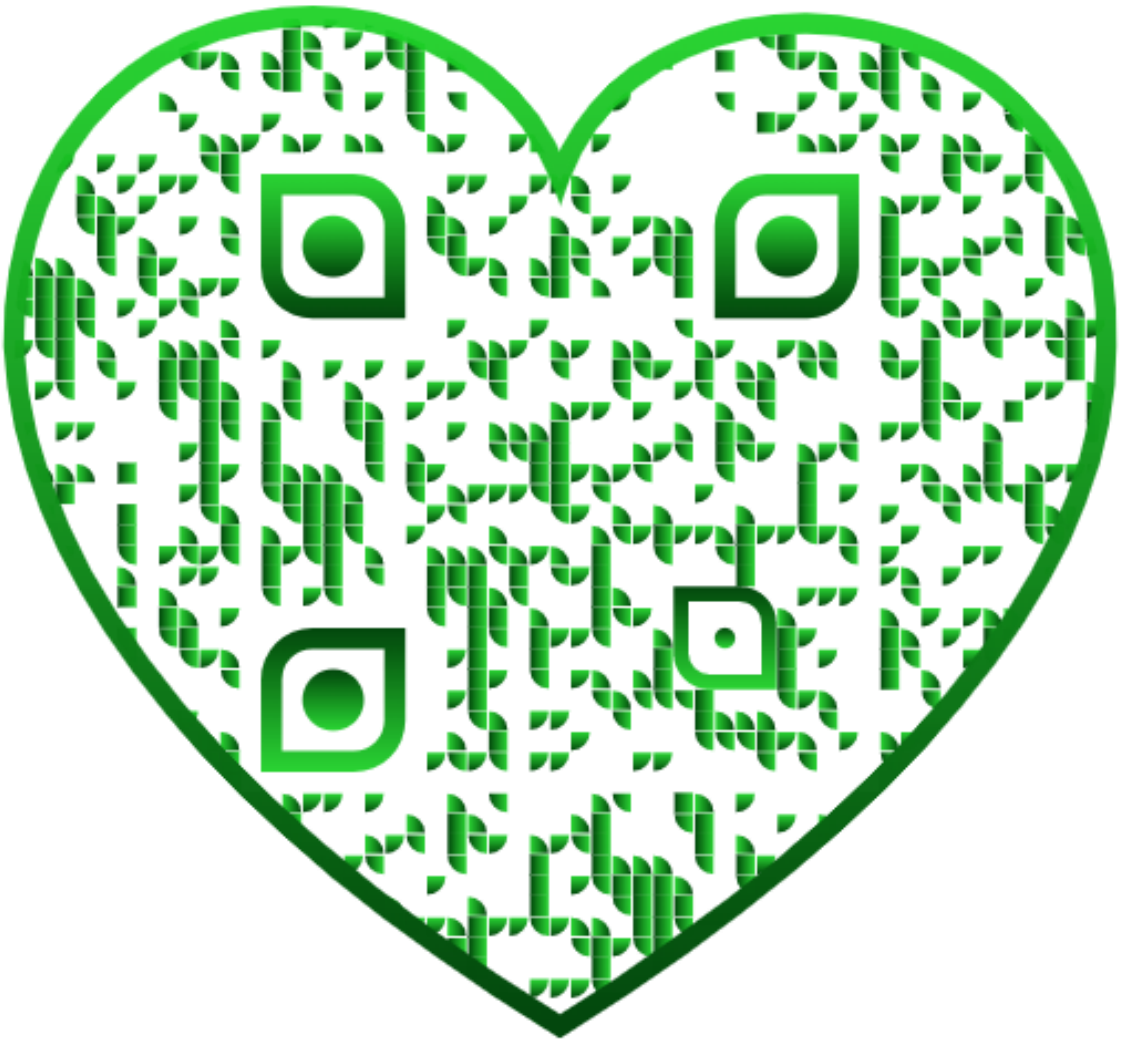
- TECHNICS SL-1200GR2 DIRECT DRIVE EVOLUTION
- WHARFEDALE DOVEDALE CLASSIC SOUND REBORN
- ARCAM RADIA A25 EFFICIENCY MEETS SONIC EXCELLENCE

APRIL 2024

$8.99 US

$10.99 CANADA

0 71486 34967 9 04>



2020

MAGICO

AS WE SEE IT

BY JIM AUSTIN

THIS ISSUE: What does "accurate" even mean?

On assessing sonic illusions

Recently, I found myself in an email conversation with two colleagues on the nature of reproduced audio. How should we think about it? The conversation was provoked by a "hybrid" (live and online) presentation of the Pacific Northwest section of the Audio Engineering Society called "What Does 'Accurate' Even Mean?" The presenter was James D. "JJ" Johnston, a distinguished researcher in the field of perceptual audio coding and a co-inventor of MP3. Among many other honors, Johnston was selected to present the Richard Heyser Memorial Lecture at the 2012 AES convention—an honor shared by our own John Atkinson, who had given that lecture the previous year and was one of the participants in this email conversation. The other was Tom Fine—so, it was me and two sound engineers.

In the email that got us started, Tom (who has done a lot of archival work) noted that vintage tape machines were usually better at recording ("better" meaning close to the microphone feed) than they were at playback. Consequently, he wrote, "Playing old tapes on late-era, state-of-the-art tape machines often yields a very different sound profile than original commercial releases." Those commercial releases, Tom wrote, "also went through the Vinyl Black Box and thus were very far from output equals input, with input being what the microphones captured."

"I'm not even talking about fidelity to what sounds occurred *in front of* the microphone," Tom continued. "*That* gets lost as soon as the microphone does its thing."

Is he saying that microphones don't accurately capture sound? It depends what you mean by "accurately." Microphones "don't operate or 'hear' like human ears," Tom wrote, "and their placement and use is determined by aesthetic factors." In use, then, a microphone is alien, and the thing it produces—a typically two-channel electrical signal that's preserved as a recording—is subjective.

What about engineers who strive to stay out of the way as much as possible, with so-called minimalist recording methods? Such recordings, Tom said, "are dull and don't hold up in the commercial world." They are admittedly an acquired taste.

JA answered with a related point, quoting Evan Eisenberg's book *The Recording Angel: Explorations in Phonography*: "In the great majority of cases," JA quoted, "there is no original musical event that a record records or reproduces."

Up to now, we were so focused on the relationship of a recording to what it reproduces that we overlooked the fact that most of the time, it doesn't reproduce anything. Subjectivity aside, very few recordings correspond to an actual performance. Most are studio concoctions with pieced-together instrumental tracks and artificial ambience that document no sonic event that ever occurred. Your average studio album is a whole-cloth creation of musicians and sound engineers.

But that's just rock and pop, right? Aren't *they* the ones who make those synthetic albums? Not exactly. Even most mainstream commercial recordings of, say, an orchestra or solo piano are spliced together from many takes—perhaps one main take per movement and many short corrections. That's partly because musicians make mistakes, and mistakes aren't acceptable on mainstream commercial recordings. "Perfection" is expected, even if it's fake.

Tom, who has remastered many of the Mercury Living Presence recordings, wrote in a follow-up email, "Some Mercury fans get going about how 'pure' the recordings sound. I tell them, 'It's a minimalist, purist recording technique, but you should see how many splices are in a master tape. It's a produced and edited product, polished to stand up to hundreds of playbacks in the home. The fact that people think it sounds lifelike means the production was done as intended.'"

Finally, the crux of the issue. We audiophiles and serious music listeners are most satisfied (whether we know it or not) *not* when engineers intervene as little as possible but when they are most successful in pulling the wool over our eyes—when the illusion is complete. Often, that is best achieved with *more* intervention—more manipulation—not less.

Recording, then, is an act of artistic creation, starting with the earliest and most basic of audio-engineering tasks: positioning the microphones. Tom again: "A spaced-omni setup is probably among the most dependent on the listening aesthetic of the engineer and producer."

Let's return to that Eisenberg quote. Far from being representative of some past real-world event or experience, Eisenberg said, "each playing of a given record is an instance of something timeless. The original musical event never occurred; it exists, if it exists anywhere, outside history." JA wrote about this in this very space in 2010.[1]

It is often said and written, including in this magazine, that a recording can be a time machine, perhaps a teleportation device, moving you through space and time to experience things you couldn't otherwise, like Thelonious Monk playing at the It Club or the Blackhawk. Yet the experience of playing a record is best thought of not as an act of recreation but as an act of original creation. Even a recording of a live event—even if there was an experience in the real world that was captured on tape—what's on the record is so far removed from what happened then and there that it makes sense to think of it as something new.

So this synthetic, whole-cloth creation is what we audiophiles are supposed to compare to "live" sound. Sounds hopeless, doesn't it?

On the contrary. The notion of a (re)produced recording as a performance is, to me, liberating. The irony is striking, but the argument is compelling: Once we've embraced the notion that a recording is a complete fabrication, we get to decide for ourselves how convincing that illusion is without worrying much about whether the connection to live music is real, whatever that might mean.

A comparison to live, though, is just one of many aesthetic choices; we are equally free to judge by other criteria, such as whether we find the soundstage compelling, the images palpable, or instrumental timbres consistently pleasing. Something, though, must constrain our judgments (and designers' choices) if we are to continue to use the word "fidelity" in describing our sonic goals. ■

1 See stereophile.com/content/recording-angel.

ALIDA

CSC

WILSON AUDIO 50 YEARS 1974 2024

stereophile
APRIL 2024 Vol.47 No.4

p.135

p.167

FEATURES

39 Recommended Components
More than 450 hi-fi products ranked and rated.

EQUIPMENT REPORTS

111 EMM Labs MTRS power amplifier
by Jason Victor Serinus

123 Thrax Siren loudspeaker
by Martin Colloms

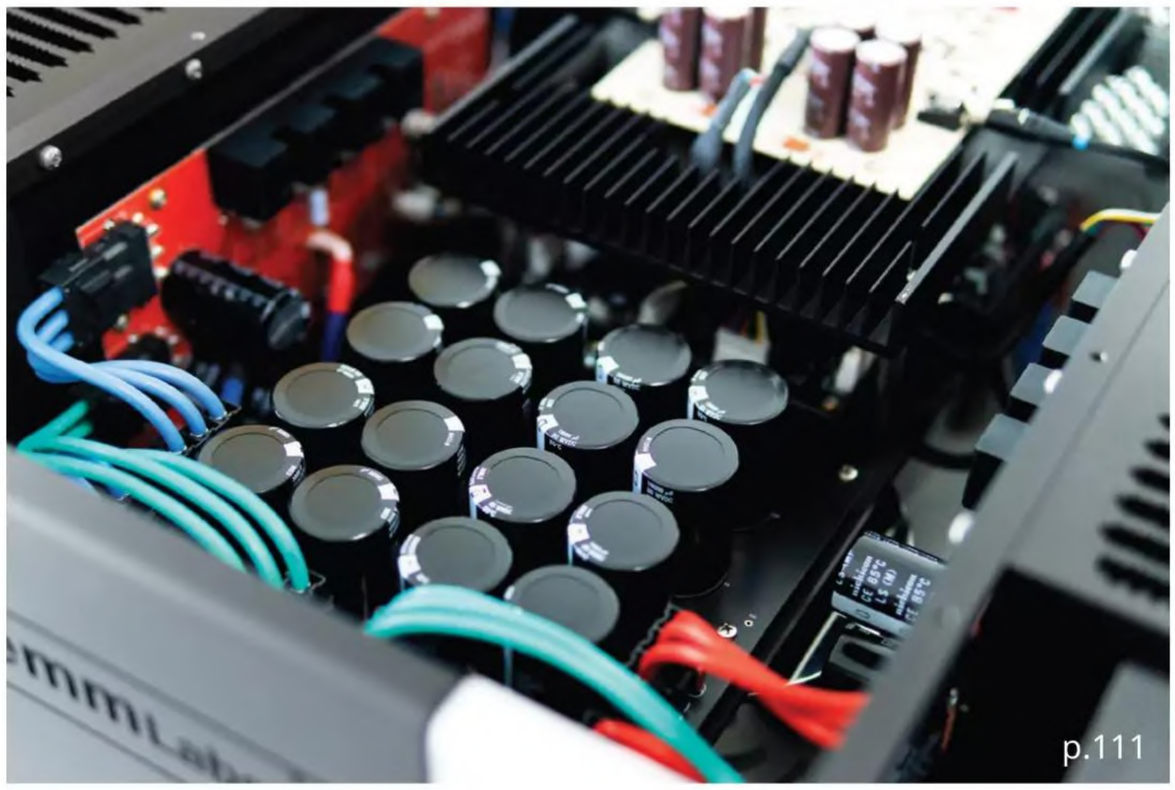
135 Technics SL-1200GR2 record player
by Ken Micallef

143 Wharfedale Dovedale loudspeaker
by John Atkinson

153 ARCAM Radia A25 integrated amplifier
by Herb Reichert

167 Tekton Moab Be loudspeaker
by Rogier van Bakel

p.153


p.111

p.143

SEE OUR EXCLUSIVE EQUIPMENT REPORT ARCHIVE AT WWW.STEREOPHILE.COM

Stereophile (USPS #734-970 ISSN: 0585-2544) Vol.47 No.4, April 2024, Issue Number 531.
Copyright © 2024 by AVTech Media Americas Inc. All rights reserved.
Published monthly by AVTech Media Americas Inc., 260 Madison Avenue, 8th Floor, New York, NY 10016. Periodicals Postage paid at New York, NY and additional mailing offices. Subscription rates for one year (12 issues) U.S., APO, FPO, and U.S. Possessions $19.94, Canada $31.94, Foreign orders add $24 (including surface mail postage). Payment in advance, U.S. funds only. POSTMASTER: Send all UAA to CFS. (See DMM 707.4.12.5); NON-POSTAL AND MILITARY Facilities: send address corrections to Stereophile, P.O. Box 420235, Palm Coast, FL 32142-0235. Mailing Lists: From time to time we make our subscriber list available to companies that sell goods and services by mail that we believe would be of interest to our readers. If you would rather not receive such mailings, please send your current mailing label, or an exact copy, to: Stereophile, Mail Preference Service, P.O. Box 420235, Palm Coast, FL 32142-0235. Subscription Service: Should you wish to change your address, or order new subscriptions, you can do so by writing to the same address. Printed in the USA.

LOOK MA... NO STANDS!

MEET THE NEW FRANCO SERBLIN ACCORDO GOLDBERG BOOK SHELF SPEAKER

Like a Stradivarius, each Franco Serblin speaker is handcrafted from only the finest hardwoods by a master artisan in Italy. Now with the Accordo Goldberg, you can experience the style and performance of Franco Serblin's visionary design either with stands... *or without.*

FRANCO SERBLIN

francoserblin.it

Visit axissaudio.com or call 866-295-4133 to find an authorized Franco Serblin dealer nearest to you

AXISS AUDIO

axissaudio.com

stereophile

APRIL 2024 Vol.47 No.4

3 As We See It
What does "accurate" even mean?

11 Letters
Willie, Merle, and Moscow; digital resolution and recording quality.

13 Industry Update
Remembering Jim Winey and audio writer Anthony H. Cordesman; Crystal Cable turns 20; plus, new-product announcements and upcoming hi-fi–related events.

GET ON YOUR SOAPBOX! VISIT THE STEREOPHILE.COM FORUMS

STAY INFORMED: GO TO **STEREOPHILE.COM FOR UP-TO-THE-MINUTE INFO.**

19 Gramophone Dreams
Brice Marden, the Benz Micro Gullwing SLR, the Goldring Ethos, and the Meze 109 Pro. By Herb Reichert.

27 Brilliant Corners
Aggressive jargon, the EM/IA Remote Autoformer, and listening with master jazzman Jerome Sabbagh. By Alex Halberstadt.

33 The Spin Doctor
The DS Audio DS-W3 optical phono cartridge and equalizer. By Michael Trei.

177 Revinylization
A UMG/Acoustic Sounds reissue of Nina Simone's seminal *Wild Is the Wind*. By Robert Baird.

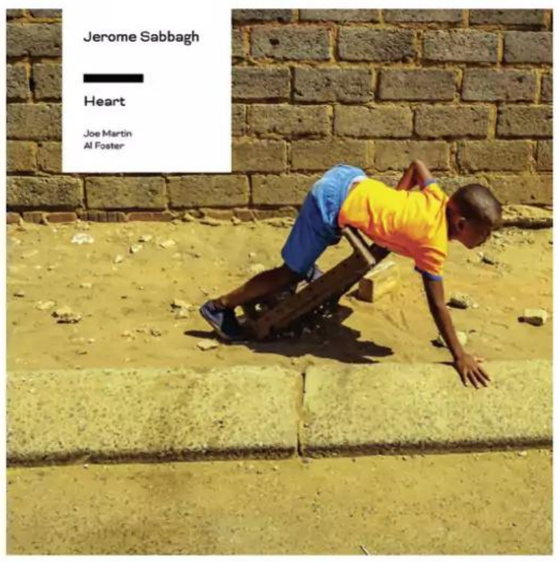
179 Aural Robert
Old No. 1, by "outlaw" country artist Guy Clark, in a blue-black vinyl reissue from Vinyl Me Please. By Robert Baird.

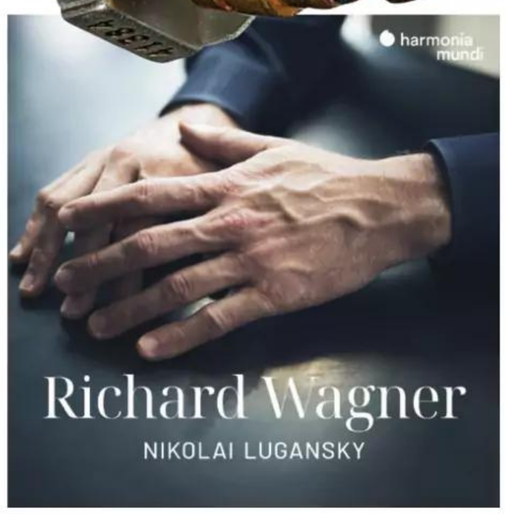
181 Record Reviews
This month's Recording of the Month is Nicolai Lugansky's account of piano transcriptions of *Famous Opera Scenes* by Wagner. In Rock/Pop, we review new issues of live performances by The Allman Brothers Band and The Babys. Our jazz reviewers consider new records from Jim Snidero and Noah Haidu, a tribute to Clark Terry, and a big band album from Dino Betti van der Noot, an Italian master of jazz composition. Our classical reviewers consider new music from the Neave Trio, Gidon Kremer, and Trio Zimbalist.

189 Re-Tales
A visit to Aural HiFi, a Denver dealer with a love of all things vintage and vintage-ish. By Julie Mullins.

193 Manufacturers' Comments
Representatives of The Wand, Thrax, Tekton, and Wharfedale respond to our reviews of their products.

194 My Back Pages
What price perfection? By Rogier van Bakel.





p.181

INFORMATION

190 Dealers' Showcase
190 Manufacturers' Showcase
192 Audio Mart
192 Advertiser Index

Follow *Stereophile* on Facebook: www.facebook.com/stereophile.

Please Recycle This Magazine. Remove Inserts or Samples Before Recycling

JL AUDIO
A Garmin Brand

Fathom® IWS
In-wall Subwoofer Systems

Available as single or dual subwoofer system, with outboard DSP and amplification.

Subwoofers pictured with grilles removed.
© Garmin Ltd. or its subsidiaries. All rights reserved.

stereophile

APRIL 2024

EDITOR JIM AUSTIN
JIM.AUSTIN@STEREOPHILE.COM
TECHNICAL EDITOR JOHN ATKINSON
MANAGING EDITOR MARK HENNINGER
SENIOR CONTRIBUTING EDITORS
HERB REICHERT, KALMAN RUBINSON,
JASON VICTOR SERINUS
WEB PRODUCER JON IVERSON
COPY EDITOR LINDA FELACO

FOUNDER J. GORDON HOLT

ART DIRECTOR JEREMY MOYLER

CONTRIBUTING EDITORS (AUDIO)
MARTIN COLLOMS, BRIAN DAMKROGER, JASON DAVIS,
ROBERT DEUTSCH, TOM FINE, LARRY GREENHILL,
ALEX HALBERSTADT, SASHA MATSON, PAUL MESSENGER,
KEN MICALLEF, JULIE MULLINS, THOMAS J. NORTON,
ROBERT SCHRYER, MICHAEL TREI, ROGIER VAN BAKEL,

CONTRIBUTING EDITORS (MUSIC)
ROBERT BAIRD, LARRY BIRNBAUM, PHIL BRETT,
RAY CHELSTOWSKI, THOMAS CONRAD, TOM FINE,
KURT GOTTSCHALK, ANDREY HENKIN, ANNE E. JOHNSON,
SASHA MATSON, MIKE METTLER, KEN MICALLEF,
DAN OUELLETTE, ROGIER VAN BAKEL, STEPHEN FRANCIS VASTA

ADVERTISING
GENERAL MANAGER KEITH PRAY
KPRAY@AVTECHMEDIAUSA.COM
ADVERTISING MANAGER ED DIBENEDETTO,
EDIBENEDETTO@AVTECHMEDIAUSA.COM
SALES COORDINATOR ROSEMARIE TORCIVIA,
RTORCIVIA@AVTECHMEDIAUSA.COM
DIGITAL INQUIRIES KEITH PRAY,
KPRAY@AVTECHMEDIAUSA.COM

CHECK US OUT ON THE WEB AT STEREOPHILE.COM.

AVTECH MEDIA AMERICAS INC
EDITORIAL DIRECTOR PAUL MILLER
FINANCE DIRECTOR OWEN DAVIES
GENERAL MANAGER KEITH PRAY

IMPORTANT STEREOPHILE CONTACT INFORMATION

SUBSCRIPTION INQUIRIES
USA (800) 666-3746
CANADA & INTERNATIONAL (515) 244-0924
EMAIL: STPCustserv@cdsfulfillment.com
POST: Stereophile, PO Box 37965, Boone IA 50037-0965
Please include name, address, and phone number on any inquiries.

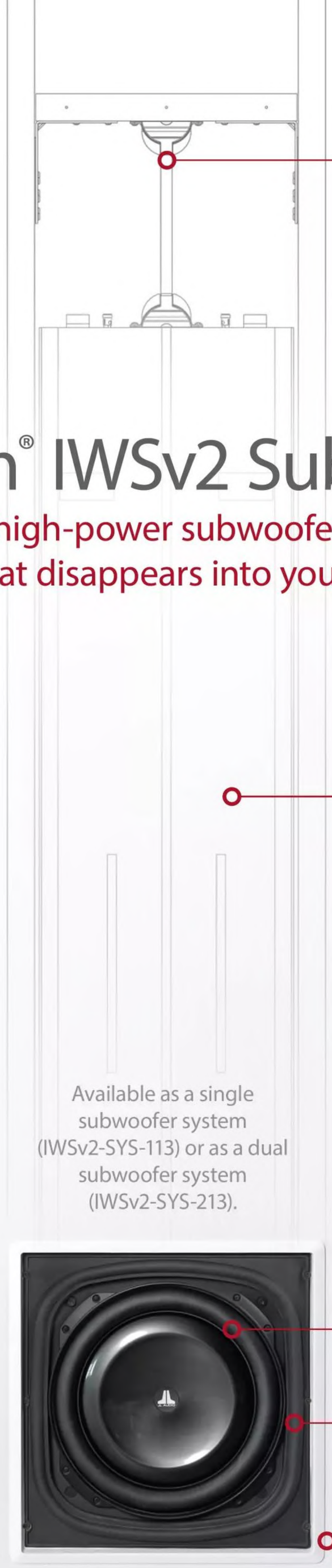
REPRINTS
For high-quality custom reprints and eprints, please contact Keith Pray at kpray@avtechmediausa.com.

SUBMISSIONS
Any submissions or contributions from readers shall be subject to and governed by AVTech Media's User Content Submission Terms and Conditions, which are posted at www.stereophile.com/images/terms.html

BACK ISSUES
To order back issues and recordings visit shop.stereophile.com or call (888) 237-0955

SUBSCRIBER LIST
Occasionally our subscriber list is made available to reputable firms offering goods and services we believe would be of interest to our readers. If you prefer to be excluded, please send your current address label and a note requesting to be excluded from these promotions to AVTech Media Americas Inc., 260 Madison Avenue, 8th Floor, New York, NY 10016, Attn: Privacy Coordinator.

PRINTED IN THE USA. COPYRIGHT © 2024 BY AVTECH MEDIA AMERICAS INC. ALL RIGHTS RESERVED.



Fully suspended, floating mounting system allows for powerful bass output without vibrating the walls.

Available to fit 2x4 or 2x6 stud bays.

JL AUDIO

A Garmin Brand

Fathom® IWSv2 Subwoofers

Amazing, high-power subwoofer performance that disappears into your wall.

Thin-wall enclosure construction with extensive internal bracing maximizes internal volume.

Systems include an outboard amplifier with DSP to control and drive the subwoofer.

1000 W with single subwoofer or 2000 W with dual subwoofer system

Amplifier includes the JL Audio DARO digital automatic room optimization.

Available as a single subwoofer system (IWSv2-SYS-113) or as a dual subwoofer system (IWSv2-SYS-213).

Purpose-engineered, long-excursion, 13.5" JL Audio® subwoofer driver.

Special suspension design couples the grille opening to the enclosure, creating a seal and preventing wall rattling.

Huge bass through a discreet grille opening, less than 18" square.

Subwoofers pictured with grilles removed. © Garmin Ltd. or its subsidiaries. All rights reserved.

audio research
HIGH DEFINITION®

stereophile RECOMMENDED COMPONENT 2024 ★★★★★

Stereophile Recommended Components 2024
Reference 6SE Preamplifier, Reference Phono 3SE
I/50 Integrated Amplifier

Ours is a legacy unrivaled by any other manufacturer of tube electronics. Developed through thousands of hours of careful listening, our custom components and original circuit designs combine to provide an array of products that transcend hi-fi.

REFERENCE 6SE PREAMPLIFIER

I/50 INTEGRATED AMPLIFIER

REFERENCE PHONO 3SE

THERE IS ONLY ONE REFERENCE®

www.audioresearch.com

LETTERS

FEEDBACK TO THE EDITOR

TAKE HEED! Unless marked otherwise, all letters to the magazine and its writers are assumed to be for possible publication. Please include your name and physical address. We reserve the right to edit for length and content.

Willie and Merle and Moscow

As usual, fantastic magazine through and through. Fresh out of my mailbox was a most enjoyable Brilliant Corners by Alex Halberstadt (Vol.47 No.2, p.27)—how is it that an émigré, from Russia no less, interprets the pulse of American country and expertly depicts its everlasting mark on our culture and understanding of these great artists? Well done!

Rudi Linke
Rancho Palos Verdes, California

Reading Alex Halberstadt's "Willie and Merle" jolted my memory, specifically when I saw Merle's picture with his guitar.

I was serving in the US Navy, stationed in Baltimore, assigned to a ship in drydock. We were living in a hotel and had an abundance of free time, so I started hanging out at a music store/coffee shop. I became good friends with the owner and even volunteered to help run the store. He published a small monthly pamphlet about the local folk music scene. Sometime in 1970, he boldly called the C. F. Martin Guitar company and arranged for a visit, as he wanted to do an article for his publication. He invited me along and we did a factory tour before they even had factory tours.

Our guide was a man named Chris Longworth, who became a Martin historian and wrote several books about the company. During the tour, we came upon a set of guitars in various stages of completion. I recall that there were three. One of them was the very guitar Merle Haggard is holding in that picture: a Martin model OO-45S with his name inlaid in mother of pearl on the fretboard. Fond memories, indeed.

Leslie Komaromi
St. Louis, Missouri

I really enjoyed Alex Halberstadt's article about Willie Nelson and Merle Haggard in the February 2024 edition of *Stereophile*. Alex stated that his article could easily be about Dolly Parton and Waylon Jennings or Johnny Cash and Loretta Lynn. Sounds like a sequel is in order.

Mark Dube
Conroe, Texas

Reading Alex Halberstadt's wonderful "Willie and Merle" brought back memories of my own musical journey. Raised on pop, rock, and soul in the 1960s (largely thanks to my older sister), I had no exposure to country until the mid-1970s. A high school buddy went to work as a plumber, and the guys he worked with listened to country on the radio at work. I first heard Tammy Wynette on the 8-track player in my friend's car, and (gasp!) I liked it! Tammy evolved into Patsy, Merle, Buck, Johnny and daughter, and so on.

For whatever reasons, most of what passes for country after Dwight Yoakam's peak of popularity doesn't interest me much, but when I get a hankerin' to listen to something that will bring me to tears, I know right where to start: Patsy Cline's "I Fall to Pieces" or Merle Haggard's "If We Make It Through December." No higher praise for an art form.

Bob Fey
Orange, California

Many thanks to Alex Halberstadt for his nice piece on Willie Nelson and Merle Haggard. Recognition of their musical legacy is long, long overdue, and Halberstadt nailed it. Also worthy of mention is 2015's *Django and Jimmie*, their sixth and final collaborative studio recording, on Legacy, released just months before Haggard's death.

So now, how about coverage of other notable "outlaw" singer-songwriters who shunned Nashville and put Austin on the musical map: Guy Clark? Kris Kristofferson? Jerry Jeff Walker? Waylon Jennings? Billie Joe Shaver? David Allan Coe? Are you listening, Robert Baird?

Len Eggert
Heathsville, Virginia

Thanks to Alex Halberstadt for his article discussing Willie Nelson and Merle Haggard and a few of their albums. As Mr. Halberstadt points out, try to find a mention of a country artist in *Stereophile*. I've been wondering for a number of years why that is. I certainly don't have the answer, but please give us more. As hard as it is to believe, there are a few lovers of classic country music who also enjoy good sound.

Gary Nicholas
Seattle, Washington

You say you want resolution

In my experience, the sonic and musical qualities of albums from the '80s onwards depends much more on the capture/production quality than the specific medium. Musicality-robbing compression and the like "flatten" the listening experience. Properly miked, recorded, and produced CDs from the earliest days of the technology can sound thrilling. I have a 1984 Verve Silver Collection CD of Billie Holliday, catalog # 823-449-2, produced in West Germany, that captures the close-miked recording of Ms. Holliday's timeless and enchanting voice along with her breaths and inhalations. She is in the room with me every time I play "I Wished on the Moon." 1984 was the very dawn of CD technology, and you can buy a copy of this wonderful Billie Holiday CD today at Discogs for 75 cents plus shipping.

I have found that the audio distinctions between Red Book and higher-resolution audio files—even some 24/192 and DSD128 and 256 files—are fairly subtle. Again, the *primary* differences relate to how well the music was originally captured and produced in the various releases. Properly implemented DAC technology today renders well-recorded digital files beautifully, and the music flowing from my Audio Research Ref 250SE's to my Wilson Sasha 2s immerses me in the beauty and artistry of the musicians. Whether I get lost in the music depends not on the resolution of the file but on the recording itself. My system becomes a time machine with well-recorded, well-produced albums, regardless of the media.

Lon Baugh
Dallas, Texas

Mr. Baugh, I agree that, as a container for music, hi-rez has only a small advantage over CD-rez. To fully exploit that advantage during music production is, it would seem, quite difficult. Consequently, many CDs sound better than many hi-rez recordings—not in direct comparison perhaps, but on balance hi-rez has a slight edge. It would seem that the quality of recorded music is most limited not by the medium but by the information captured—not by technical resolution but by quality. In considering this, I see no reason not to include the quality of the music. It's the whole experience we care about, or should.—**Jim Austin**

LETTERS TO THE EDITOR should be sent as e-mails only. Email: stletters@stereophile.com. Please note: We are unable to answer requests for information about specific products or systems. If you have problems with your subscription, call (800) 666-3746, or email STPCustserv@cdsfulfillment.com, or write to *Stereophile*, P.O. Box 37965, Boone, IA 50037-0965.

Fono Acustica

VIRTUOSO

Distributed by

WYNN AUDIO

+1 (212) 826-1111

www.wynnaudio.com

MUSICAL EXPRESSION BEYOND EXPECTATION

www.fono-acustica.com

INDUSTRY UPDATE

AUDIO NEWS & VIEWS

SUBMISSIONS: Those promoting audio-related seminars, shows, and meetings should email the when, where, and who to stletters@stereophile.com at least eight weeks before the month of the event. The deadline for the July 2024 issue is April 20, 2024.

IN MEMORIAM: MAGNEPAN'S JIM WINEY

Stereophile Staff

Jim Winey, founder and chief inventor/engineer of pioneering loudspeaker company Magnepan, died peacefully on January 10.

Born in 1934 and raised in Iowa, Winey—before becoming an engineer and multiple-patent-holding inventor of innovative loudspeakers featuring planar-magnetic technologies—was first a music lover. "Music's pull was so strong that, by the time he entered his teens, Jim Winey insisted on experiencing it viscerally," David Lander wrote in the January 2003 *Stereophile*.[1]

"I was probably 13, 14 years old," Winey recalled. "I'd come home from school for lunch, and there was a program on every day that had classical music on it. After I had my lunch, I would sit with this portable radio of my sister's in my lap, kind of pressed to my body so I could feel it as well as hear it."

Lander's interview discusses Winey's love of electrostatic speakers—first Janszen Z-600s, later KLH Nines—which eventually inspired his planar-magnetic, ribbon tweeter, and quasi-ribbon designs including the first large-scale true-ribbon tweeter. His Magneplanar speakers use magnets to drive a large surface area of Mylar film.

Here's how his planar-magnetic concept came to him, as he worked on a project at 3M. "I happened to be working on an application that involved laminating tape to flexible magnets. I must have been sitting there thinking about the project as well as my electrostatic project. I looked up and saw some perforated ceiling tiles, and the light bulb went on. It's as simple as that."

Customers prize Magnepan speakers for their open sound; lacking a cabinet, they lack cabinet colorations.

Winey also invented a tonearm, the Unitrac, a unipivot design, as he believed that the arm was often a system's weak link. From conception to production took five years. It sold well.

Fellow Midwesterner Herb Reichert described his first encounter with Winey. "No matter how long I play this artist-in-Brooklyn character, I remain a born'n'raised Midwesterner. Most New Yorkers are intentionally clueless about Midwesterners, especially rural ones. They can't imagine a sophisticated subculture that likes fixing tractors, fishing through

ice, and camping under a sky where the stars are all touching each other. During the first minute of the first time that I spoke to the late Jim Winey, I knew he was a tractor-fixer with a strong mind for seeing the big picture of how electromechanical things work. Turns out, in our early days, we both had worked for John Deere & Co. in Iowa and pulled Walleyes from the same lakes. My father, who lived in Wisconsin only 75 miles from Magnepan's home in White Bear Lake, Minnesota, wanted me to grow up and work at 3M—which is where Jim Winey was working when he invented the planar-magnetic loudspeaker. Jim left 3M in June 1969 with the rights to that invention and investors to back it.

"I didn't discover Magnepan until after I came to NYC in 1975. Hearing Winey's giant, three-panel "folding-screen" Tympani IV at Lyric Hi-Fi was unforgettable, possibly my first true wow-level audio audition.

"Not long after I started at *Stereophile*, I got this call from a man with a Minnesota accent who identified himself as "Jim." I told him I was a Magnepan fan and how much I admired the elegance of his designs. He thanked me. 'I'm calling because I just read your extremely negative review of my friend's loudspeaker,' he said.

In a nervous voice, I told him I was sorry but that I was compelled to tell it like I experienced it. I also told him that Atkinson and Dudley had both tried his friend's speakers, so I knew they regarded that review as a test of my ears and journalist's judgment.

"'I know what those speakers sound like,' Jim replied in a low, grave voice. 'That's why

1 See tinyurl.com/zd9swnaj

CALENDAR OF INDUSTRY EVENTS

ATTENTION ALL AUDIO SOCIETIES: We have a page on the *Stereophile* website devoted to you: stereophile.com/audiophile-societies. If you'd like to have your audio-society information posted on the site, email Chris Vogel at vgl@cfl.rr.com. (Please note the new email address.)

It is inappropriate for a retailer to promote a new product line in "Calendar" unless it is associated with a seminar or similar event.

CALIFORNIA

■ Friday evenings, 5–7pm PST: The San Francisco Audiophile Society hosts a virtual happy hour via Zoom. This is open to anyone who'd like to join us to talk about hi-fi and whatever else is on your mind. For more information and registration, visit bit.ly/3RyaqX9.

ILLINOIS

■ April 12–13, 2024: AXPONA will take place at the Renaissance Schaumburg Hotel and Convention Center in Schaumburg, Illinois. For more information and to buy tickets, visit axpona.com.

TEXAS

■ March 15–17, 2024: A new show from the team behind the Capital Audiofest and Pacific Audio Fest, the Southwest Audio Fest will take place at the Anatole/Hilton in Dallas. For more information, see southwestaudiofest.com or contact Gary Gill or Lou Hinkley at capitalaudiofest@gmail.com or lou@pacificaudiofest.com.

CANADA: MONTREAL, QUEBEC

■ March 22–24, 2024: Presenting hi-fi for more than 35 years, the Montréal Audiofest will take place once again at the Hotel Bonaventure, 900 de la Gauchtière Ouest, Montréal, Quebec H5A 1E4. Show organizers are the same duo behind the Toronto Audiofest, Sarah Tremblay and Michel Plante. For more information, visit montrealaudiofest.org.

I want you to review one of my designs.'[2] After a pregnant pause, I told him I would be honored to try and grateful for his trust.

"After that, we swapped cold-weather tractor-starting stories and raves about the biggest Musky and best night skies we've ever seen.

"Sitting here now, reflecting on his passing, it is easy to see that Jim Winey was the poster boy for high-chi engineering mojo and old-fashioned Midwest honesty. His Magnepan speakers are proof that the best audio products achieve long-term relevance," Herb said.

Longtime Magnepan sales and marketing manager Wendell Diller, who knew Jim Winey for more than 50 years as a colleague and friend, wrote a personal remembrance for *Stereophile*.

"Jim Winey was the single most influential person in my life apart from my family members. After spending 50 years with Magnepan, what can I say about Jim Winey, the man? One thing I am sure of: Jim would not approve of exaggerations. As the son of a Mennonite minister, I could relate to the rural farm culture of Iowa where Jim grew up. There's a shared, similar cultural belief that social status and rank are not important. Many audiophiles over the years commented about how very approachable Jim was; he never made anyone feel that he was superior in any way. He was one of us. He was a good person. No more, no less.

"Occasionally, people would joke that sometimes when Jim was there, he was not *really* there. Jim lived in a world of ideas. Because music was so important to him, it was easy to get a lively conversation going about the reproduction of music or related topics. That's also true for so many of us—because he was one of us.

"Jim loved to solve problems. He had the ability to think of elegant and powerful solutions to a problem. Perhaps Jim was the right person in the right place at the right time. Maybe you could have invented the Magneplanar speaker, but you didn't The power of Jim's inventions lies in their simplicity, in how so much could be accomplished with so little. Many engineers and inventors can create complex and expensive solutions to a problem, but few can match Jim in finding the simplest solution.

"The last chapters have not yet been written on Jim's inventions. Fortunately, a number of people are dedicated to writing those chapters."

"I've never had a problem with ideas, ways to do things," Winey told Landers in that interview. "They say necessity is the mother of invention, and that's very pertinent to farming. You've got to be innovative."

Winey loved his work and continued it to the end. "I still consider myself one of the luckiest people in the world—to spend my life and earn my livelihood doing something I love as much as I love doing this."

IN MEMORIAM: ANTHONY CORDESMAN

Tom Fine

Anthony H. (Tony) Cordesman, who wrote hi-fi equipment reviews for *Audio*, *Stereophile*, and *The Absolute Sound* (*TAS*), died suddenly last week. Cordesman also wrote articles and offered commentary about national security and had a deep, wide impact on that field; see, for instance, his obituary in *The Washington Post*[3] and an appreciation by a national security expert at the *American Enterprise Institute*.[4]

Readers of a certain age may remember Cordesman's dead-serious delivery of crucial perspective alongside Peter Jennings during ABC News's coverage of the first Gulf War. In just a few minutes, Cordesman and Jennings could deliver what felt like a classified briefing about the goings-on.

We are the world's foremost experts on system matching

ABYSS
ACOUSTECH ELECTRONICS
ACOUSTIC REVIVE
ACOUSTIC SIGNATURE
ACOUSTIC SYSTEM
ACOUSTIC ZEN
ACOUSTICAL SYSTEMS
ACROLINK
AESTHETIX
AIR TIGHT
ALLNIC/ZL TECHNOLOGIES
ALPHA CORE GOERTZ
ALPHA DESIGN LABS
ANALOGMAGIK
ANALOGUE PRODUCTION
ANALYSIS PLUS
AUDIENCE
AUDIO DESK SYSTEME
AUDIO MAGIC
AUDIO REPLAS
AUDIOQUEST
AUDIOSHIELD
BACKERT LABS
BDR SOUND ENHANCEMENT
BELLA SOUND
BLACK CAT CABLE
BLUE HORIZON
BOB'S DEVICES
BUTCHER BLOCK ACOUSTICS
BYBEE
CABLE TOWER
CARDAS AUDIO
CHANG LIGHTSPEED
CHORD COMPANY
CHORD ELECTRONICS
CLEARAUDIO
CONTACT ENHANCER
CRYSTAL CABLE
DAN CLARK AUDIO
DH LABS SILVER SONIC
DS AUDIO
DYNAMIQUE AUDIO
DYNAVECTOR
ELEVEN XI AUDIO
ELROD POWER SYSTEMS
ENGLISH ELECTRIC
ENTREQ
ESP ESSENTIAL SOUND
EXTREME PHONO
FEICKERT
FERRUM
FINITE ELEMENTE
FOCAL
FOSGATE
FURUTECH
GINGKO AUDIO
GOLD NOTE
GOLDEN SOUND
GRADO LABS
GRAHAM ENGINEERING
GUTWIRE
HANA CARTRIDGES
HARBETH
HARMONIC TECHNOLOGY
HART AUDIO
HELIUS DESIGNS
HERBIE'S AUDIO LAB
HRS HARMONIC RESOLUTION
IFI AUDIO
IKEDA
ISOACOUSTICS INC
ISOCLEAN POWER
ISOTEK
JORMA DESIGN
JPS LABS
KAB
KIMBER KABLE
KOETSU
KR AUDIO
L' ART DU SON
LAB12
LAMM INDUSTRIES
LEHMANN AUDIO
LESSLOSS AUDIO
LITTLE FWEND
LYRA
MAGNAN AUDIO CABLES
MARIGO LAB
MEZE HEADPHONES
MOBILE FIDELITY MOFI
MUSICAL SURROUNDINGS
NEOTECH
NITTY GRITTY
NORDOST
NUPRIME AUDIO
ONZOW
ORTOFON
OYAIDE
PHASEMATION
PRANAWIRE
PRIMARE
PURE VINYL
PURIST AUDIO DESIGN
QUADRASPIRE
QUANTUM PHYSICS
REGA
REL ACOUSTICS
ROGUE AUDIO
RSX TECHNOLOGIES
SENNHEISER
SHAKTI INNOVATIONS
SHELTER
SHUNYATA RESEARCH
SILTECH CABLES
SNAKE RIVER AUDIO
SOLIDSTEEL
SOUND ANCHORS
SOUNDSMITH
STEALTH AUDIO
STEINMUSIC
STILLPOINTS
STRAIGHT WIRE
SUMIKO
SUTHERLAND ENGINEERING
SYMPOSIUM ACOUSTICS
SYNERGISTIC RESEARCH
T+A ELEKTROAKUSTIK
TARA LABS
TARGET
THORENS
TONTRÄGER
TRI-PLANAR
VAN DEN HUL
VIBRAPOD COMPANY
VICOUSTIC
VOODOO CABLE
WARWICK ACOUSTICS
WATTGATE
WBT
WIREWORLD CABLE
WOLF AUDIO SYSTEMS
WYWIRES
XLO

Catch the live action on CNN, then turn to ABC News to understand it.

By the time he was writing and talking about Gulf War I, Cordesman had been writing high-end audio reviews for years. He was prolific and widely read. For a short time, he accomplished the rare feat of triple-dipping, writing for *Audio*, *Stereophile*, and *TAS* simultaneously.

Cordesman's interest in hi-fi dated from his childhood in Chicago. In an interview, his son Justin told me that Anthony's father Harry was a jazz fan and record collector. "He would take my father to various jazz clubs in Chicago," Justin said. "He was listening to music and building his own hi-fi equipment early." In an essay commemorating *TAS*'s 50th anniversary, Anthony recalled his father's "high-end 78rpm system" and seeing his father "sharpen cactus needles" well into the LP era. As a college student in Chicago, Anthony worked at a hi-fi shop. His keen interest in sound reproduction equipment grew from there.

Cordesman's hi-fi reviewing debut appeared in the June 1984 issue of *Audio*, pioneering a section called *Auricle*. Editor Eugene Pitts described it as "something between [a] 'New Products' mention and a complete equipment profile." Notably (for *Audio* conspicuously) absent were

measurements. Cordesman's reviews often ran heavy on specifications and logistical/technical specifics, but he never forgot to tell readers how it sounded. His reviews appeared regularly in *Audio* through the magazine's last issue in early 2000.

Cordesman's time at *Stereophile* was brief.[5] He joined the contributing corps in 1984 and wrote his last piece in 1987. One memorable exchange, with *Stereophile* founder J. Gordon Holt and publisher Larry Archibald, was about hi-fi shows. Cordesman's contribution to the exchange was called "The Case Against Show Reports."[6]

Most of Cordesman's audio writing was in *TAS*. In his 50th anniversary essay, in the magazine's July/August 2023 issue, Cordesman noted that he was invited to contribute by founder Harry Pearson "after writing ... a long letter on the technical problems in creating a truly distortion-free straight-line tonearm."

Justin Cordesman told me that the family home was full of music and audio equipment. He said his father color-coded his reference CDs using touchup paint from his cars so that they could easily be found and pulled during review listening. His father loved classical music but also listened to jazz and pop. One album in frequent rotation was the audiophile chestnut *Famous Blue Raincoat* by Jennifer Warnes. Also frequently heard was Dire Straits's *Brothers In Arms* and "so much classical music I can't remember any of it specifically." Justin said his father kept up with technology and "was a huge fan of the fact that he could do high-resolution streaming, but he also loved to play his LPs and CDs."

2 See tinyurl.com/26kvfxa7

3 tinyurl.com/3ts3wva9

4 tinyurl.com/2w27668y

5 Some of Cordesman's reviews and commentaries are online at tinyurl.com/TC-Stereophile.

6 tinyurl.com/4nx9s6hz

Cables Unlock Performance

Our Lending Library will prove that!

Our Audio Experts will guide you towards unlocking your audio system's full potential.
Our unique $3,000,000 Lending Library allows you to borrow fully burned-in cables and other products.
Hear our recommendations for yourself, at home, in your own system.

Finally hear all the music you've been missing!

215-862-4870 TheCableCo.com THE CABLE COMPANY Home of the only Audiophile Lending Library

A Cordesman quote captured in an obituary by Brian Murphy in *The Washington Post* stated, "My professional life has been in national security," he wrote, "but I've never lost touch with the high end."

Cordesman is one of a handful of audio writers who, over decades, contributed significantly to the hi-fi field. He will be missed.

CRYSTAL CABLE CELEBRATES 20 YEARS

Julie Mullins

One of audio's "power couples," Edwin and Gabi Rijnveld have had plenty to celebrate lately. Last year was Siltech's 40th anniversary. This year marks Crystal Cable's 20th, and they have plans for the brand, Gabi Rijnveld told me in a recent conversation from their home in the Netherlands, where their factory is located.

Some of the plans for new products and events are still taking shape, but Rijnveld shared a few highlights, including some music-focused endeavors.

Music, she told me, has always been part of her life. She grew up as a piano prodigy in Hungary, performing in renowned concert halls from an early age. Fast-forwarding decades, and her busy career in global sales and marketing allowed less time for playing music. The pandemic provided the opportunity to resume playing piano more regularly and for Edwin to compose music again.

For Crystal Cable's 20-year anniversary, the Rijnvelds want to release a CD that includes some recently recorded tracks featuring Gabi playing compositions by Edwin. They're also revisiting their compilation *Arabesque*, originally released in 2009. (It shares a name with a Crystal Cable series.) Gabi told me that *Arabesque* sold 37,000 copies and that people still use it in system demos. She and Edwin are also working on a new compilation, including some newly revised and recorded versions of some of the material from *Arabesque*. The new compilation will probably also be released as an LP later this year.

"The main goal for all our colleague companies and other listeners is to get [close to] the live experience in their living rooms," she said. "As a musician, I'm closest to how to bring that to the living room. That's the magic of live music," she said. "You can't capture every bit of it in hi-fi, but we're still trying to get there as closely as possible."

Productwise, some special edition upgrades to existing products are forthcoming, as are some altogether new ones.

Reflecting on Crystal Cable's history, Gabi explained that the idea was conceived

after Edwin Rijnveld discovered that with good engineering, he could achieve certain mechanical and physical properties in a smaller, thinner, and more flexible jacket. Compared to Siltech's thicker, heavier cables, Crystal Cable's designs are more elegant and pliable.

After about a decade, they decided to separate the Crystal Cable brand from Siltech, in part due to their different mate-

rial and sonic characteristics and divergent customer bases.

Leading Crystal Cable wasn't an easy road for Gabi, especially at first. "It was not a time for women in audio 20 years ago," she said.

Times change, but the company's goals haven't. It doesn't seem like 20 years since Crystal Cable began, Rinveld told me. "It feels like yesterday. And the goal is still to make the best high-end cables."

Another goal is to give back to their community. Rijnveld told me about plans to organize an event in the late fall with Leerorkest—"Learning Orchestra" in English. Leerorkest is an Amsterdam-based foundation that provides donated musical instruments and free music lessons for underprivileged children ages 6–16. The Learning Orchestra Foundation has implemented the program in more than 30 schools in the Netherlands. Details of the event are still being worked out, but she expects members of the Netherlands Philharmonic Orchestra to participate and perform—as will Gabi. The Rijnvelds hope to record the performance and speak with the children about what music means to them. "We're celebrating 20 years, but we also want to give back," she said.

FOCAL LAUNCHES REDESIGNED ARIA SERIES: EVO X

Julie Mullins

France's Focal, a longtime manufacturer of speakers and drivers for professional and audiophile applications, recently announced the new Aria Evo X loudspeaker lineup, which descends from the Aria 900 series. "Evo" is an evolution of the Aria series launched just over a decade ago—hence the "X," the Roman numeral for 10. The Evo X home hi-fi lineup includes four hi-fi speakers priced from $2389 to $5998/pair, starting with the Aria Evo X Nº 1 bookshelf. Nº 2, Nº 3, and Nº 4 are all floorstanders. There's a center channel for $999.

Focal designs and manufactures their drivers in-house, which the company says helps them innovate and make improvements. Among the Evo X's redesigned elements is the TAM tweeter, an M-shaped aluminum-magnesium inverted dome tweeter reported to extend farther in both frequency directions. The M-shaped design aims to widen dispersion at higher frequencies. The TAM tweeter supersedes the TNF tweeter. The crossovers have been reconfigured with improved parts that are said to offer better balance and longevity.

The Aria Evo X speakers use Focal's signature flax-fiber cones for natural sound and proprietary TMD (Tuned Mass Damper) technology for the surrounds, the latter said to "stabilize how the surround behaves" to reduce distortion.

A new Moss Green High Gloss finish—previously seen on some other selected Focal models—is also available for the Evo X speakers, in addition to Black High Gloss and Walnut.

The Focal Aria Evo X series debuted at CES 2024 in January and is in market now.

AUDIOVECTOR UPGRADES ITS QR SERIES

Jim Austin

Danish loudspeaker manufacturer Audiovector has upgraded its QR series to SE (special edition) status. Upgrades over the previous QR series speakers include new "double cryogenic polypropylene tin flash copper" capacitors, which are designed in house and which the company says "provide our AMT tweeters with the best possible conditions for sounding even sweeter, more detailed, and more open." Also in the crossover are metal-housed resistors for better heat dissipation, improving thermal stability and allowing more precise crossover operation when operated at high powers. Inside the cabinet, strategically placed "Nano Pore" damping material is said to "enhance midrange openness," and the bass-reflex system was realigned to "deliver more punch without losing precision." Outside the cabinet, stainless steel spikes with knurled nuts allow for easier "micro adjustment." The SE upgrades also include some small cosmetic changes: "subtle, elegant, yet highly recognizable gold brass badges on the front panels and cloth grilles."

The QR SE line includes a standmount/bookshelf speaker priced at $1725/pair—custom Audiovector stands add $1400—and two floorstanders, the QR 5 SE ($4650/pair) and the QR 7 SE ($6500/pair), all manufactured in Denmark. All come in White Silk, Black Piano, and Dark Walnut Veneer finishes. Center-channel and in-wall speakers are also offered. All four QR SE speakers are available now from Audiovector dealers.

A CORRECTION

Jim Austin

In the Revinylization column in the January issue of *Stereophile*, Ken Micallef credited Bernie Grundman with remastering and cutting lacquers for Geffen's reissue of Steely Dan's *Aja* (Geffen/Ume B0035028-01). In fact, that reissue was remastered and cut by Alex Abrash of AA Mastering. *Stereophile* regrets the error. ■

KRELL

THE LEADER IN AUDIO ENGINEERING

PRESENTS

KMA-i800 MONO AMPLIFIER

Featuring Sym-Max™, a revolutionary technology
for an unparalleled soundstage.
Also available: the KSA-i400 Stereo Amplifier

krellhifi.com/kma-i800-mono-amplifier

KRELL
THE LEADER IN AUDIO ENGINEERING

Krell® is a registered trademark of Krell Industries LLC., and is restricted for use by Krell Industries LLC., its subsidiaries, and authorized agents.
All other trademarks and trade names are registered to their respective companies.

© 2024 by Krell Industries LLC. All rights reserved.

GRAMOPHONE DREAMS

BY HERB REICHERT

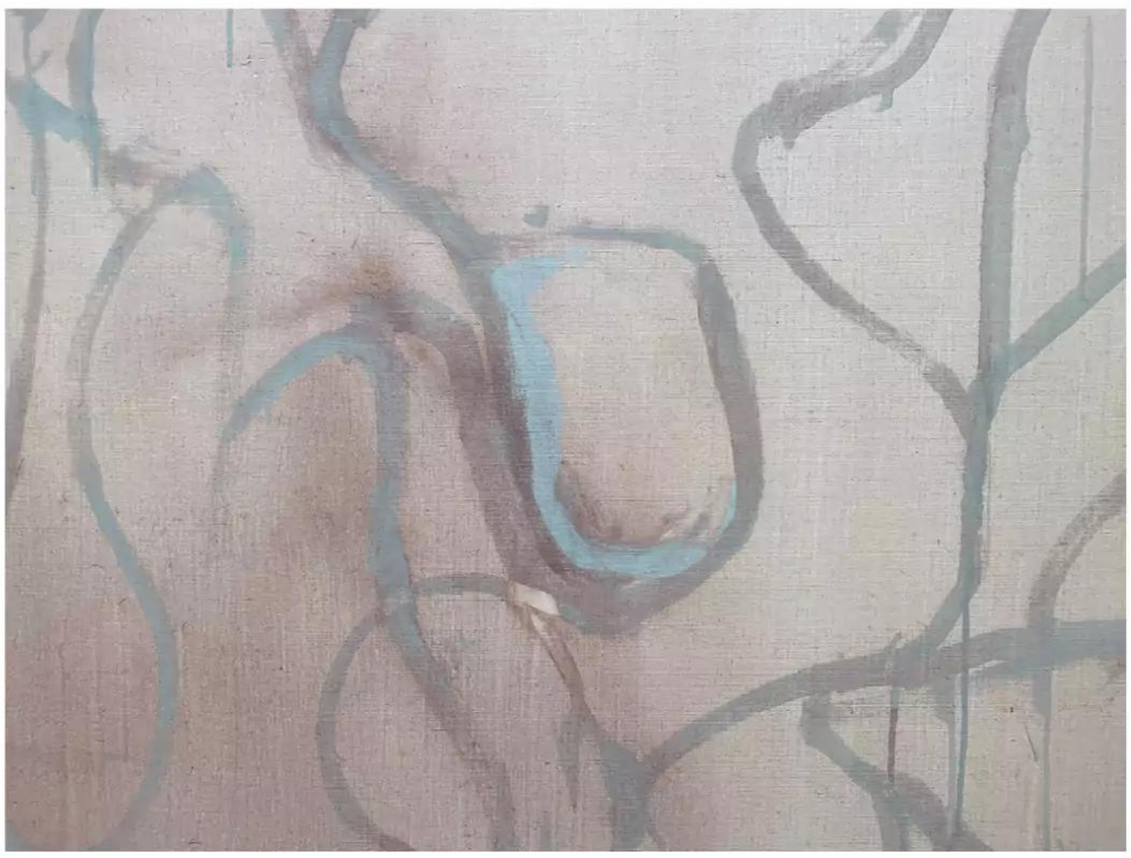
THIS ISSUE: Brice Marden's art, two phono cartridges, and a headphone.

Music in black & color

It was almost Christmas, a perfect, chilly, blue-sky day to visit the Met Museum and see the Manet/Degas show before it ended. On my way, walking north on Madison Avenue, I passed the uptown branch of Gagosian Gallery and noticed a brightly lit poster behind thick glass announcing their exhibition of American artist Brice Marden's last paintings. The title of the show was "Let the painting make you," which sounded like an invite and a challenge, so of course I had to go in. I was in the perfect mood to ride in Gagosian's swanky private elevator and see how a famously serious painter with a six-decade career chose to communicate his last thoughts.

Brice Marden died in August 2023, and I had been watching his art evolve since I arrived in New York in 1975. Having seen scores of Marden shows, I was familiar with his creative timeline. But that day, seeing the words "last paintings" on the Gagosian poster struck an "artist at Golgotha" tone that got me psyched to see what kind of energy these things were putting out.

In the main gallery, I found six 72" × 96" paintings, each with its own distinctive palette: pink with powder blue lines; dense red lines on a mottled lead-gray background; rough black and white lines rubbing up against each other on a dark gray background (this is the "black one" mentioned below). Standing close and examining each painting's surfaces was like looking at pond water through a microscope, or at an opera from a balcony, and possibly at the inside of Marden's mind. As I searched for the artist's last thoughts, I felt awe and mystery—as I am sure the artist hoped I would.



I never cry at funerals, not even my mother's, but as I approached the last painting in the main room, the one I'm calling "the black one," I choked up and began sobbing. As I had hoped, Marden's last work did feel like a denouement. As I followed his black and white lines to the lower edge of the unframed, stretched canvas, I saw the artist's entire oeuvre of brush-stroked forms first dancing behind then consolidating into these last ones. The energy in Marden's lines suggested Miles Davis playing a quiet solo in a dark room.

When my mind returned to the gallery, I wiped my eyes and left the building. Moments later, I was at the corner of Madison and 77th Street, walking toward the Met. Then I stopped, turned around, and went back for one more look at that black painting. The moment I spied it, my throat choked up. In less than minute I was sobbing again.

When I left the gallery the second time, I did not have the emotional bandwidth to enjoy the Manet/Degas show, so I stopped in the Gagosian bookstore and bought the "Let the painting make you" show catalog for my partner "bb" as a Christmas gift.

On Christmas morning, after bb opened the Marden book present, we sat next to each other solemnly paging our way through it. Then, unbelievably, the moment she turned to the page with a photo of that black painting, I choked up. Try to imagine: a two-second look at a tiny photo of a large oil painting made me cry, and I don't know why. Do you?

It seemed to me that Brice Marden fastidiously engineered these last paintings so that his viewers might experience some measure of the awe, fear, and mystery he experienced during the months preceding his death. What else would he have been up to?

I'm now obsessed. I need someone to tell me: What psychoactive forces made that single painting (and later a tiny digital photo of it) so emotionally affecting? Was there something extra-primal or supranatural about its forms? Did Marden's humanity speak extra-strongly through his awkward looking but tenaciously drawn lines? Through the moods emanating from his translucent grounds? I don't know.

What I do know is that everywhere two brush-painted lines crossed, I experienced a riveting narrative of force and material presence that felt balletic, operatic, and timeless (top photo, previous page). The touch and tempo of his hand-drawn forms suggested mind rhythms. In a perfectly abstract manner, the artist appeared to be presenting the rhythms and temper of his last thoughts as directly as possible.

One of the reasons I am telling you this is to illustrate how, in order to be effective, close looking and close listening must be purposefully directed. I might not have experienced the awe and mystery of Marden's last thoughts if I had not walked into Gagosian looking for it.

If I had entered that gallery feeling superior to Marden, fully prepared to judge his work according to what I think it should be—not what the artist created it to be—I would have hated those paintings because I had prejudged them as inferior to my own or someone else's.

For me, studying paintings and listening to recordings are perfectly analogous activities. Both require an innocent mind, some hope for learning, and a plan.

My experience with that black painting in the Brice Marden show forced me to remember David Bowie's last album, *Blackstar*, released on his birthday two days before his January 10, 2016, death. As the world mourned, I played *Blackstar* in my room, eyes closed, scanning its vast synth and guitar energies for the rhythms and temper of Bowie's last thoughts, the same way I scanned the washes and lines of Marden's last paintings.

Choking on words

When cheap-suit hucksters tell me, "You can now hear this recording as the artist intended," it makes me nauseous. Wtf? How could they know? Imagine someone saying that after touching up a Picasso painting![1] What I know, from my personal life, is that I've choked up many, many times while listening to original pressings of black discs, fewer times listening to reissues, fewer still with silver discs, and only once or possibly twice while streaming. And I don't know why.

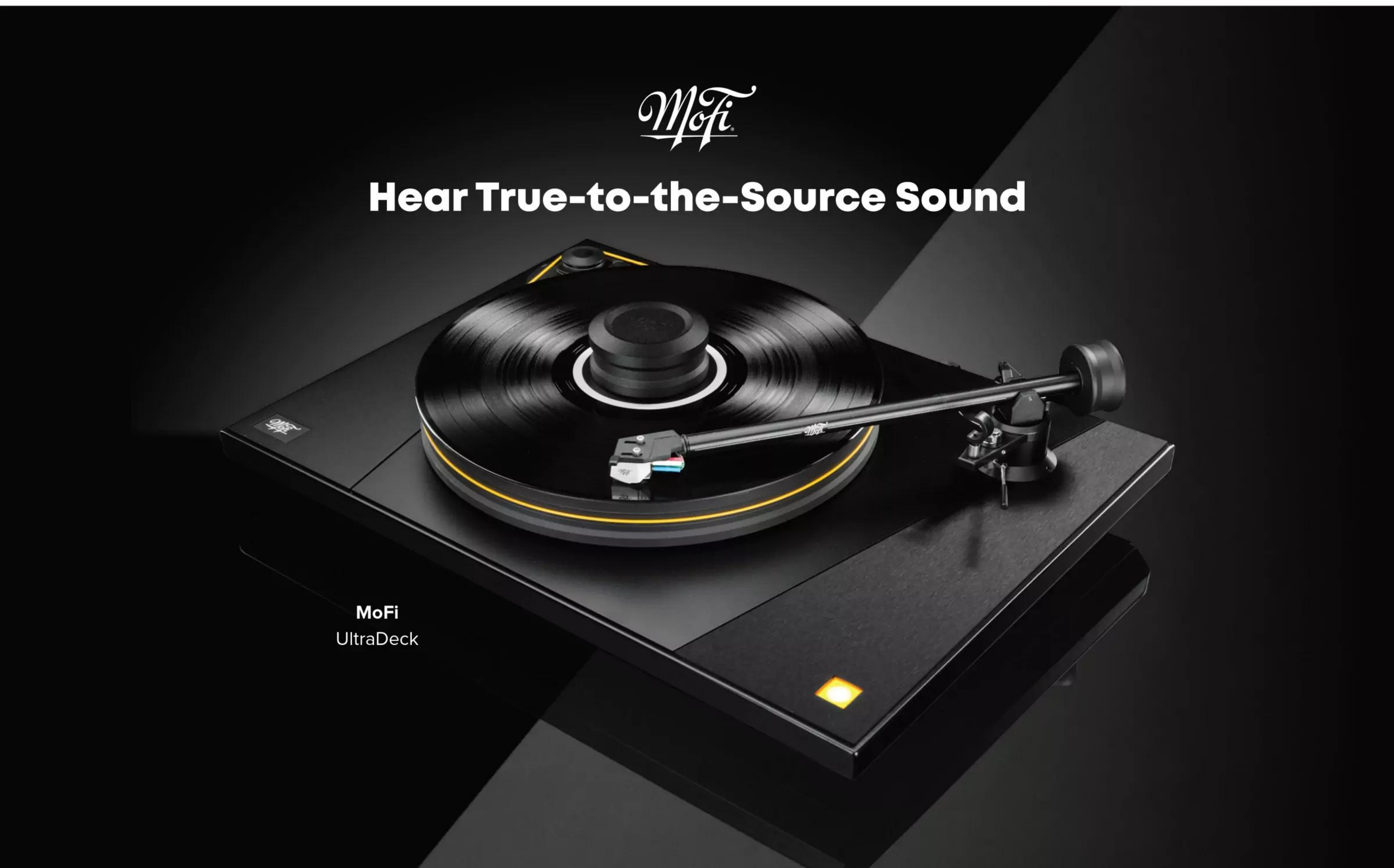
The only things these choke-up stories tell me is that I am predisposed to like hand-painted (un-retouched) canvases and first-issue LP pressings. And that I might be more receptive to "artist's intentions" while viewing black paintings or spinning black discs.

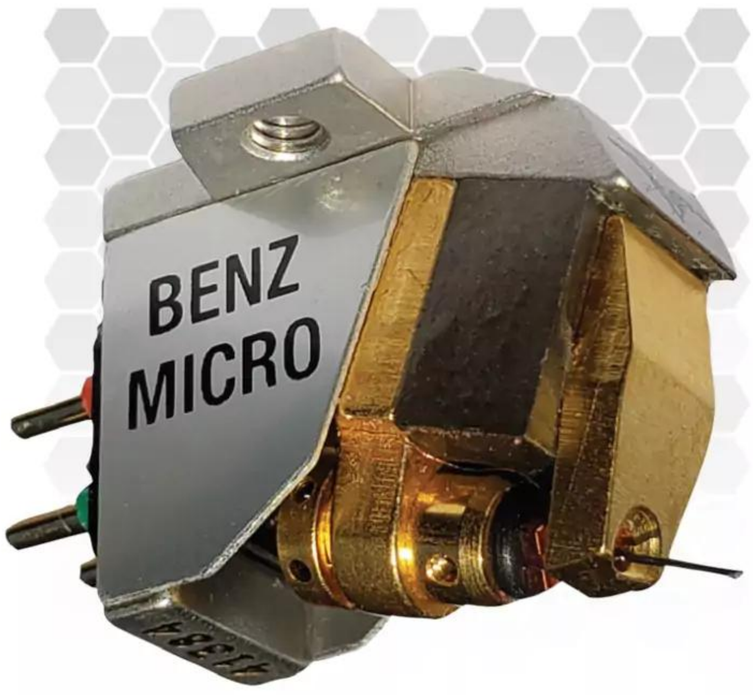
And then there's the related fact that I am predisposed towards fiddling with those beastly doodads you call phono cartridges. That I love them for how sci-fi cool they look and their proven ability to draw me in and show me the rhythms and diversities of human thought.

The Benz Micro Gullwing SLR

Last September, in Gramophone Dreams #76,[2] I called the Benz Micro Gullwing SLR moving coil an "entheogen" and described its sound as "moon-luminous." I used those words because the Gullwing SLR played my records with a "burnished glow" I found core-level appealing.

After a month reviewing DACs, I was jonesing for some of that "burnished glow," so I reinstalled Benz's Gullwing SLR, connecting it to the tube input of PrimaLuna's all-tube EVO 100 phono stage, its load resistance set at 500 ohms. Now it's winter, and that same cartridge sounds bigger, meatier, and more tactile than I thought it did last summer. Next, I connected the SLR to MoFi's MasterPhono phono stage set at the same 500 ohms. With that preamp, the Gullwing came across as leaner and fitter, also punchier and more full-throttle dynamics-wise than it did with the PrimaLuna EVO 100. Neither preamp cast the Benz as warm, soft, or overly romantic, but both preamps highlighted its burnished glow.





I gave the Gullwing a second listen because when I reviewed it, I thought its sound really suited my personal taste, and I wanted to see if it would please me as much now as it did last summer. During these second auditions, I noticed that the Gullwing's sound has a lot of "early-Koetsu" savoir-faire. Like the very first Koetsus, its sound is confident and crammed with myriad intangibles that combine to fashion a very eager, earthy presentation.

Remembering that '70s-era Koetsu while playing the Benz Micro Gullwing SLR put me in the mood for more new cartridge adventures. The Goldring Ethos moving coil ($1599) just happened to be sitting on my desk, waiting patiently for its turn.

The Goldring Ethos

Inside the attractive paper box that held the Goldring Ethos moving coil cartridge, I found a glossy-paper booklet titled *Goldring: A Visual History*. Underneath the title, it says, "Established 1906." Inside, it devotes two pages to each historical decade, from the "1910s" to the "2010s." On the 1960s pages, there's a photo of a Lenco GL 75 turntable, which is the "sold in Great Britain" version of the Swiss-manufactured L-75 that I use. On the page opposite the GL 75 photo, there's another showing three models from Goldring's G800 series, which competed directly with Shure's American-made SC35C, which I reviewed in GD #3.

For those too young to remember, broadcast-quality phono cartridges from the 1960s were engineered for tone-truthfulness—paramount for radio play—and robustness, necessary to push the beat of new records over the airwaves and into the homes and cars of potential consumers.

I talk to Spin Doctor Michael Trei a lot. I bug him constantly with "dumb Herb questions" about what makes all those analog bits sound the way they do. For this Goldring Ethos report, I asked him questions such as "How would you characterize the sound of neodymium magnets?" And "Is a 25mm/N static and 15mm/N dynamic compliance high enough to be considered high?" Or "How long do I really need to break in a cartridge I'm reviewing?" I asked that last question because right out of its smart-looking paper box, the Goldring Ethos sounded extraordinarily vivid, focused, and dynamically charged.

The first disc I played with the Ethos was a red-label Bethlehem disc, Nina Simone's *Little Girl Blue* (Bethlehem LP BCP-6028). The first thing I noticed was how the Ethos operated at a nice, brisk energy level, with sparkle in its clarity. So right away I'm puzzled: How can this moderately priced Goldring be making some of the most vivid sound I've heard from a recording I've known my whole life? (Thinking that thought, I texted Trei asking "Do cartridges ever sound worse after break-in?" To which he replied "I don't think so.")

The second disc I tried was a first pressing of David Bowie's *Blackstar* (Columbia

1 ... although the argument could be made that remastering a recording is, or at least can be, similar to cleaning an older canvas.

2 See stereophile.com/content/gramophone-dreams-76-lounge-silver-copla-grado-platinum3-high-benz-gullwing-slr-shure-v-15.

Rega
Planar 6

Fender x MoFi
PrecisionDeck

Pro-Ject
Debut Carbon EVO

Marantz
TT-15

Clearaudio
Concept Air

VPI
2022 Classic Signature

musicdirect®

312-433-0200

CHECK OUT OUR NEW CATALOG!

Call for a free copy

LP 88875173871). The Ethos tracked this difficult-to-track disc with Steadicam ease. When *Blackstar* is not played extra-cleanly, it sounds messy and fatiguing. The Ethos put *Blackstar*'s dense, reverberant synth work into well-sorted order, permitting me to see how it was built and search for clues about Bowie's last thoughts.

"On the day of execution, on the day of execution
Only women kneel and smile, ah ah, ah ah"

The historical, religious, and exploratory aspects of the album's title song came through well enough for me to grasp the strangeness and mysteriousness I am certain Bowie intended. Like Marden's black painting, Bowie's *Blackstar* beckons his creative past to come forward and show itself, pulsing faintly in the background.

Goldring's Ethos moving coil plays like a cartridge costing much more than its $1599 asking price. Not only that, it's built like one: aircraft aluminum body, neodymium magnet, plus a nude 0.3 × 1.4 mil line-contact stylus on an aluminum cantilever. With a 4 ohm internal resistance, the Ethos puts out 0.5mV at 1kHz and 5cm/s and plays happily into its recommended load of 100 ohms. Its dynamic compliance is specified at 15mm/N, static compliance at 25mm/N.

I mounted the Ethos in an LP Gear H4 headshell and attached it to my Sorane SA-1.2 tonearm, which was mounted on my Dr. Feickert Blackbird turntable. I connected it to MoFi's MasterPhono phono preamp set at Goldring's recommended load (100 ohms), with the Sorane's own DIN cable. I double-checked my cartridge alignment by playing the orchestral bell flute and harp tests on Shure's *ERA IV Trackability Test Record* (TTR 115). What I hear playing that record predicts what I'll hear with every other record. What I noticed with the Ethos was how clean, full-bodied, and well-toned the harp tracks sounded. The harp's strings felt thicker, closer to the mike, and—hence—more tangible than usual.

A new test I've devised is to play my scratched, clicks'n'pops noisy G/G+ copy of Barbra Streisand's first record (Columbia LP CL 2007) then try to rate cartridges on their ability to reduce the noticeability of these wear-sourced disturbances. Goldring's Ethos blew this test into the sky. Way better than most cartridges, it reduced the apparent volume of these distractions, turning a G+ disc into a VG keeper.

Waiting for Ethos

After 10 hours of playing time, the Goldring's Ethos was surfing the highest-velocity grooves. It played John

McLaughlin's *Devotion* (Douglas LP S DGL 65075) with an almost pristine clarity. It sounded sweet, quick, and more tightly organized, with a sharp but not-too-sharp focus. In common with Bowie's *Blackstar*, it doesn't take much groove shimmy to make McLaughlin's *Devotion* sound blurred and congested. The Ethos tracked *Devotion* with absolute laser-level certainty, which made each artist's performance easier to follow.

After 20 hours, I reached into my Nonesuch Explorer Series collection and pulled out *Kalpana Improvisations: Instrumental & Dance Music of India* (Nonesuch H-72022). Playing *Kalpana*, the Ethos pulled its way through complex Rāga time measures and the unprocessed harmonics of a sarod, a tablā, and a dancer with ankle bells. Over centuries, this timeless music has evolved to trigger the listener's imagination. Each song is created purposefully to spark visions and promote delirium. Throughout this Explorer Series recording, the rhythmically persuasive Ethos emphasized *pathos* and suppressed *logos*. The only tool it needed was its marvelous clarity.

You know when that shark bites with his teeth, babe ...
Scarlet billows start to spread ...
Now on the sidewalk, huh, huh, whoo
sunny morning, un huh
Lies a body just oozin' life, eek

Oh, the line forms on the right, babe
Now that Macky's back in town
Look out, old Macky's back!

I love how those lyrics celebrate natural-born evil with a wink, a sly smile, and a finger snap.

If there's a higher form of art than songwriting, it could only be singing. Since before I was born, great singers singing timeless songs have enriched my blood and kept my heart pumping scarlet. That's why I love YouTube, where, as I was writing this, I stumbled on Bobby Darin singing Kurt Weill and Bertolt Brecht's "Mack the Knife" on the Ed Sullivan show in 1959.[3] As I sat mesmerized by the video,1 I realized that with all forms of art, I must look past the obvious and into the shadows where the beautiful mysteries hide. The passage of cultural time has allowed Darin's masterfully orchestrated performance to transcend its finger-snapping Vegas vibe and move into the realm of evil Lynchian darkness, a moodplace I can never get enough of. To keep it going, I played my 7" 45 of Bobby singing about Macky, Lotte, and "old Lucy Brown" (Atco 45-6147), and damn me if Goldring's Ethos didn't pull out the same surreal darkness I discovered in the video. Sonics-wise, the fresh-sounding Ethos delivered most of the disc's juke box presence while maintaining a balanced relationship between the band behind and Darin's voice up front.

Just to be clear

I keep repeating my praise for the Ethos's tracking abilities because that's how it sounds: like its line-contact rock stays locked in the slot. Goldring's overachieving Ethos delivers a bright, extra-quiet clarity that lets the sounds and attitudes of music come out fresh, full, distinct, and robust. In my system, with a variety of phono stages, the Goldring Ethos made high-chi uptown sound at a modest downtown price.

The Meze 109 Pro headphone

Meze's flagship Elite planar-magnetic headphone that I reviewed in Gramophone Dreams #64 is one of the most beautifully constructed, truthful, and seductive-sounding transducers that has ever straddled my brain pan. But the Elite costs $3999 while its new stablemate, the elegant-looking, dynamic-

3 See youtube.com/watch?v=557lFG-qq5g.

Innovation through Technologies | Outstanding Artisanal Capabilities

aquahifi.com

aqua
acoustic quality

driver Meze 109 Pro, costs only $799 and delivers a majority portion of the Elite's seductive resolve.

Normally I write about edgier, more expensive headphones, but in February 2023, at CanJam NYC, Meze's 109 Pro headphones powered by Woo Audio's WA2 OTL amplifier were the surprise high point during my two days of auditions. The 109 played David Chesky recordings so well that David and our whole listening gang declared it "better than anything in the big room." These high-revving declarations happened in Woo Audio's "off to the side" room where the 40 ohm 109 Pros were being driven by Jack Wu's modest $1499 WA2 OTL amp, which is specified as having a 70 ohm output impedance. That's right, Meze's 40 ohm voice-coil and 50mm "beryllium-coated polymer, cellulose/carbon fiber composite and copper-zinc alloy" diaphragm were being driven by an output-transformerless tube amp with an output impedance of 70 ohms (!) and the sound was instantly engaging: nuanced and vital, with thick textures and never-before-noticed details.

If Meze headphones have a house sound, and I were pressured to identify it, I would describe it as breathy, caressingly smooth, and nanodetailed. I am writing this story because that description applies equally to Meze's flagship Elite *and* Meze's new 109 Pro.

Often, while I write my reviews, I listen inquisitively at my desk using the JPS Labs Abyss AB-1266, the HiFiMan Susvara, or the Audeze CRBN, hoping to dig up some lost sonic treasures buried in a recording.

But when the lights are out, and I lay on the floor in my pile of pillows, I want sound that directs my attentions toward dream realms—toward the beautiful and psychedelic. Meze's 109 Pro excelled at that task. With every amplifier, the 109 exhibited a perfect right-brain/left-brain balance; beautiful sound and musical insight were celebrated equally.

As much as I live for Hank, Frank, and Bob, they don't really do sensual right-brain stuff like a gal named Barbra. I've never found a Barbra Streisand album that didn't grip me, but the one that holds me tightest now is her first one (which I mocked in my youth): *The Barbra Streisand Album* from 1963, which conveys the fresh voice and confident mind that, at age 21, traded lower pay for complete creative control. And—don't laugh—my favorite song

off that first album is "Who's Afraid of the Big Bad Wolf?," one of the first songs she performed publicly in 1962 at Café Bon Soir in Greenwich Village.[4] This fun song was written by Frank Churchill and arranged and conducted for this performance by Peter Matz (16/44.1 FLAC, Columbia/Qobuz). The 109s powered by the Feliks Envy conveyed every eager breath of Streisand's fresh-faced exuberance. On this album, her voice sounds genuinely young but not inexperienced. Not surprisingly, critics and early fans noticed how something in the singer's voice suggested that Streisand knew she was a legend in the startup phase.

Listening with the Feliks 300B Envy, I kept grinning, giggling, and shaking my head in rediscovered admiration for how creatively Barbra delivers each song and how tastefully this album was recorded.

I have two copies of *The Barbra Streisand Album*: the G/G+ (VG with the Goldring) one I used for testing (above) and a NM one I use for personal pleasure. The NM copy accesses a lot more information of all types, and when I played it through the dCS Lina headphone amplifier, I was taken aback by the dynamic nuance and microarticulated space the 109 Pros delivered.

The sound through the Lina was a few degrees cooler than with the Feliks Envy, but the Lina better emphasized the confidence in Barbra's voice. With the Lina driving the Meze 109 Pros, the orchestra was presented clearly and always in perfect service of Streisand's voice.

I'm enamored with Meze Audio's made-in-Romania headphones for lots of reasons, and I'll explain more of them in the future. Right now, though, there's one important reason I must mention: Meze engineers have created their headphones to be extremely durable and 100% user-serviceable. "We believe that a longer product lifespan means a smaller ecological footprint," reads Meze's sustainability statement, on the company website. "Following this philosophy, the 109 Pro can be taken apart and serviced by average users—if ever needed." Spare parts and optional copper and silver cables are available on the Meze website.[5]

Meze Audio's 109 Pro dynamic headphone joins the Klipsch RP-600M II, Magnepan LRS speakers, Elekit TU-8600 amplifier, and Pioneer PLX-1000 direct drive turntable as the products I am most proud to have introduced and recommended at *Stereophile*. I hope to find more such products in 2024. ■

4 These performances are documented on the recent release on the recent Impex issue, *Live at the Bon Soir*, Impex Records IMP6050.

5 See mezeaudio.com/collections/accessories.

CONTACTS

Goldring
Armour Home Electronics
Woodside, 2 Dunmow Road,
Bishop's Stortford, Herts CM23 5RG, UK.
Tel: +44 1279 501111.
Web: goldringusa.com.

US distributor:
Fidelity Imports,
7 Crown Ct,
Manalapan Township, NJ 07726.
Tel: (609) 369-9240.
Web: fidelityimports.com.

Meze Audio
Iuliu Maniu str., no. 38, 1st fl., ap. 2,
Baia Mare, 430131, Romania.
Email: info@mezeaudio.com.
Web: mezeaudio.com.

Rediscover Music

Technics

The New Reference is Upon Us.

SU-R1000 Reference Class Digital Integrated Amplifier

Based on Technics internationally acclaimed Reference Class components, this model features full digital amplification evolved to new heights with new technology to provide magnificent energy and dynamic sound. A fusion of analog and proprietary digital technology that only Technics can bring to market.

SU-R1000 Reference Class Digital Integrated Amplifier, available in silver and black

stereophile RECOMMENDED COMPONENT ★ CLASS A 2023

“The SU-R1000 is a technological breakthrough and a remarkable integrated amplifier.”

— Ken Micallef, *Stereophile*

Hi-Fi Audio Components / Speakers / Turntables / Headphones

Technics.com @technics.global @technics_global

MAGIC

THE FIRST HYBRID IN THE WORLD WORTHY OF THE NAME *PRIMALUNA*

IT'S NOT REALLY MAGIC, IT'S PARTS AND ENGINEERING.
STILL, WE WON'T TELL YOUR EARS IF YOU DON'T.

"SHEER GENIUS. PRIMALUNA HAS DONE A BETTER JOB OF COMBINING TUBES AND TRANSISTORS ON ONE CHASSIS THAN ANYTHING WE'VE COME ACROSS."

JEFF DORGAY, TONE MAGAZINE

PrimaLuna®

EVO 300 HYBRID INTEGRATED AMPLIFIER

A WORLD CLASS TUBE PREAMP AND SOLID-STATE AMP IN ONE CHASSIS

LEARN MORE. PRIMALUNA-USA.COM

DISTRIBUTED IN THE AMERICAS BY HARMONIA DISTRIBUTION | HARMONIADISTRIBUTION.COM

BRILLIANT CORNERS

BY ALEX HALBERSTADT

THIS ISSUE: Some components are better than others at conveying music's life force, but none are quite as good as a great saxophonist playing live in your listening room.

Drive

Ever notice that the language we use to talk about sound can be pretty aggressive? Reviewers often write about amplifiers "taking control" of a speaker, possibly "ironfisted control," especially if the amplifier in question happens to be a "juggernaut." In this particular linguistic trash fire, we also find "razor-sharp transients," "hair-raising dynamics," and that ickiest of descriptors, "bass slam." If words could smell like hair gel and drugstore cologne, these might.

All this verbiage is describing brute force, which we might use to push open a heavy door. But there's another kind of force that we encounter in the world, and consequently in audio, captured in the expression "life force." It denotes a sense of vitality and presence that isn't readily perceived by the senses—something lingering just out of reach of our rational minds. This force can be experienced in the terse saxophone solos of the young Sonny Rollins, the eerie abstract paintings of Mark Rothko and Pat Steir, and the deceptively quiet poems of Elizabeth Bishop. If you've ever been drawn in by one of the squat, gouged, lopsided jars made by a traditional Japanese potter, you know what I'm talking about.

One way that force—in both these senses—manifests in audio is in the phenomenon of drive. Generally speaking, drive tends to feel good. Lots of drive tends to feel better. A system with plenty of it has the first kind of force: a sense of shove, juice, volition. It's likely to make you dance. And it leaves you reassured, in the way you might be by a full tank of gas or a flush checking account. But it also possesses the second kind of force: With lots of drive on tap, music tends to feel vigorous, corporeal, and present. When you put the two kinds of force together, you get a high probability of being emotionally engaged or at least having fun.

That's the main reason I enjoy active preamplifiers. In addition to providing input selection and volume control capabilities, an active preamp (often called a line stage to distinguish it from phono preamps) usually brings a greater sense of drive. What's not to like about that?

Some listeners, though, use passive preamplifiers. Presumably this is because they prefer the sound, but it is also partly based on the somewhat controversial belief that passive preamplifiers, which of course don't contain amplification devices like transistors and vacuum tubes, are quieter and introduce less distortion.[1]

During a brief period in my 20s when I fancied myself handy, before I decided to never again burn myself with hot solder, I built a rudimentary passive volume control using an ALPS potentiometer, some RCA jacks, and a few bits of wire, mounted in a wooden cigar box. It probably won't surprise you that it sounded kind of shitty. Replacing my beloved tube preamp with the cigar box made my system sound a bit clearer but also tentative, unengaging, and feeble. Less force, less feeling.

Since this admittedly unpromising experiment, my feelings about nonamplifying volume control devices haven't shifted. I fancy myself a right-brain, ecstasy-motivated, more-is-more listener, and trading some transparency for fun has always struck me as worthwhile. Besides, with a high-quality active line stage, how bad could the tradeoff really be? When it has come to listening, I've always preferred whatever preamp I have on hand to the passive solutions, whether digital or analog.

This disdain for passive volume controls was with me until quite recently, when I spent time with the unglamorously named EM/IA Remote Autoformer. An inscrutable-looking black box with an LCD readout on the front panel, it offers an unusual approach to getting your music from your source into your amplifier: *inductive* attenuation, in which two autoformers (one

1 This is disputed, and for my part I'm with the skeptics. Counterintuitively, passive devices—even resistors—cause more, not less, noise and distortion. The best way to control noise and distortion is to lower impedance, which requires (or at least benefits from) active devices, as eloquently argued in a technical note by John Siau, Benchmark Media's talented designer. See bit.ly/passivepre.—**Jim Austin**

for each channel) with multiple taps allow the volume to be stepped down. To generalize slightly, think of a phono step-up transformer but placed between your source and amplifier and working in reverse.

Why would anyone want such a thing when there are plenty of far smaller and cheaper potentiometers, like the Japanese ALPS unit I used in my cigar box and those in many preamplifiers today? According to EM/IA's Dave Slagle, inductive attenuation preserves more of the signal and presents it to the amplifier in a more useful way. A conventional—ie, resistive—potentiometer reduces volume by turning excess signal voltage into heat. As it does this, it adds noise and distortion and raises output impedance, making the source less capable of driving an amplifier. In contrast, an autoformer volume control works like a gear box, decreasing voltage by selecting taps on a coil. The result of this decrease in voltage is an increase in available current, which substantially increases drive, while the entire process results in less noise and distortion.

The EM/IA, sometimes referred to online affectionately as the Slagleformer, takes this concept to its logical and decidedly deluxe conclusion. The custom autoformers inside the box are wound from copper or silver wire using 80% nickel cores, sometimes known by the trade name Permalloy. (The copper version costs $4875; the silver, $7525.) Each unit offers 60 positions at 1dB intervals for a fairly fine-grained choice of loudness levels and a gain range of –54dB to +7dB. There are three inputs and two outputs. The whole thing can be operated via a lovely metal remote, allowing one's buttocks to remain safely on the couch.

For me, the hidden superpower of the EM/IA is its ability to adjust channel balance without introducing a separate, sound-degrading circuit. With the push of a button on the remote, you can turn one channel up or down, and the unit will maintain the balance setting as you control the volume. The readout even reminds you where you set it in case you forget. This is the single smartest and most convenient balance control I've encountered in a hi-fi component, an all-too-rare function that I find essential for real-world listening.

While I respect Dave Slagle and his partner Jeffrey Jackson's engineering knowhow and design skills, all the theory in the world isn't worth a canceled credit card if it doesn't make listening to music at home more engaging. And to be frank, I wasn't excited to hear another passive volume control; I was pretty certain it would sound like watered-down gravy. Then again, one of my favorite things about being a reviewer is poking holes in my pet theories.

So one night not long ago, I set the admirably petite copper version of the EM/IA on my Box Furniture rack beside the PrimaLuna EVO 400 preamplifier. The sources were a Garrard 301 turntable, a Schick 12" tonearm, and an Ortofon Cadenza Bronze cartridge in a Box Furniture plinth passing the signal to a Manley Steelhead phono stage. On the digital side, a Totaldac d1-streamer-sublime fed a d1-unity DAC. A pair of Manley Mahi amps operating in pentode mode drove the Klipsch La Scalas. And Ken Micallef was over for a visit.

To begin, we listened to "It's Funny" from a UK pressing of John McLaughlin's 1969 debut, *Extrapolation* (LP, Polydor 2434 012). Years before McLaughlin became a maximalist fusion demigod to guitar shredders the world over, he released this sinuous, melancholy, forward-looking date, which for me remains his finest recording. We heard it first through the PrimaLuna. The superb-sounding Dutch preamplifier was outfitted with six vintage Amperex signal tubes and a pair of Mullard rectifiers, and through it the jazz record sounded tonally rich, fast, and admirably transparent, with oodles of drive. This was a sound I knew and liked.

After swapping the EM/IA in for the preamp, we listened again. To my relief, the music still sounded satisfyingly forceful if not quite as fun as before. But that's where the similarities ended. The recording was now obviously, disconcertingly clearer. And though the *impression* of drive had diminished slightly, McLaughlin's playing actually sounded faster and rhythmically more in the pocket.

Unsettled by the magnitude of change we were hearing, we listened to the track again through the PrimaLuna. I could now hear that, compared to the autoformer, the active preamp was adding some electronic sludge to John Surman's soprano sax and John McLaughlin's guitar. The strings of Brian Odgers's bass were also less audible and distinct, and there was less ambient information throughout. These differences were not at all subtle. Ken and I exchanged a round of wows.

The following day, I compared the EM/IA to my Shindo Aurieges preamplifier and heard a similar result: The autoformer sounded clearer, cleaner, faster, and more detailed. I want to note here that these impressions in no way reflect poorly on the PrimaLuna or the Shindo, which are among the finest preamps I've heard at their respective prices. What I was experiencing was a whole other paradigm.

In subsequent listening sessions, what stayed with me most was the remarkable *coherence* the EM/IA brought to my system. While there was a slight reduction in the first kind of force—sheer grunt and propulsion—there was a notable increase in the second: Music sounded more natural, present, and intentional, less like a collection of sounds and more like a real performance. And the EM/IA more consistently drew my attention to the music rather than the sound, always a wonderful development.

It turns out that getting this kind of genuinely inspiring performance out of the EM/IA is dependent on your overall system gain. The relatively high gain of the Manley Mahis—around 32dB—made it possible to operate the EM/IA autoformer in its sweet spot. In my room, the optimal volume level, which appears on the readout, was around 21.[2]

But when I replaced the Mahis with the Ampsandsound Red October, a 300B SET amp with a single 12AX7 input/driver tube and much lower gain, I had to set the autoformer to 40 to achieve the same volume. With the autoformer driving the 300B amp, I found myself wanting more drive. Without it, the system lacked excitement and punch, and I preferred listening to the Red October with the PrimaLuna.

If you're interested in the EM/IA, it's important to consider the rest of your system. Slagle told me that if you're setting loudness near the top of the autoformer's range, you won't be getting the best out of it and will want to add gain. An audition is probably a good idea; luckily EM/IA offers a 14-day trial.

In case you're wondering, I did listen to the silver version. What I heard was sound that was even more detailed and clear, without any of the whitish, bleached cast that some silver components can impart. Recordings sounded bigger than through its copper sibling and created images that were even more uncannily free of the speakers. Most memorably, music became eerily holographic, as though made of light. Slagle likens this silver effect to being on LSD. I think he's joking, but the comparison has a dose of truth.

Though the silver EM/IA was undoubtedly impressive, I kept returning to the copper version. I found that the silver unit drew my attention to the leading edge of notes more than I wanted, and with certain interconnects the top end became, as the kids used to say, a bit extra.

Whichever version you prefer, the EM/IA Remote Autoformer is a world-beating preamplifier. In a system with enough gain, it can offer astonishing performance, on

2 That's –33dB from the Slagleformer, so Alex's very sensitive Klipsch speakers were seeing a signal smaller than that emerging from the phono preamplifier.—**Jim Austin**

Bass. Refined.

Precision engineered low-frequency.

Introducing the PSB SubSeries BP8 Powered Subwoofer—an innovation in precision-engineered bass. Proprietary bipolar dual 8" drivers, 500 watts of premium nCore® amplification, and advanced isolation features work together to deliver a unmatched level of detail with minimum distortion. Elevate your movie, music, and gaming experiences with deep, powerful bass and unmatched accuracy.

psbspeakers.com

par with the best preamplifiers I've heard at any price. And it's a mature, convenient, well-finished product that throws in a superbly executed balance control, at prices that are more than fair. Nice work, Dave and Jeff.

Sometimes a thing we didn't know we wanted proves unforgettable. For me, one of those moments happened this winter when saxophonist and composer Jerome Sabbagh dropped by for dinner and some listening.

Sabbagh is a longtime fixture on New York's jazz scene and no stranger to this magazine. He's been profiled by Ken Micallef, and his most recent album, *Vintage*, was chosen as a Recording of the Month and written about by Jim Austin. Not surprisingly, Sabbagh is himself an audiophile and makes records with almost as much care for their sound as for the music.

About that music: Sabbagh is something of an outlier in contemporary jazz. Many players today prioritize technical virtuosity and reaching beyond the stylistic boundaries of jazz. The first ambition is as old as the music itself. The second speaks to jazz's current predicament as an outmoded genre that, more than ever, depends on detours into other forms of music—particularly funk, hip hop, and soul —to achieve broader popularity. Some of these fusions have been downright thrilling, and it isn't difficult to empathize with the artists' desire to reach a larger audience.

Sabbagh has taken a different route. On *Vintage* and his upcoming record, *Heart*, he plays in a style that might have been heard a half-century ago. His improvising is reminiscent of Lester Young, Stan Getz, and Ben Webster. I don't mean to suggest that his music is coyly derivative or closed off to modernity, only that he keeps his light-toned, lyrical playing planted squarely in the idioms of cool jazz and hard bop and never tries to cover up a lack of ideas with flurries of needless notes.

The reason for his visit was to listen to *Heart*, scheduled to be released by his new label, Analog Tone Factory, this summer. For Sabbagh, the album represents the culmination of a longtime dream to record with Al Foster, the octogenarian drummer best known for playing with Miles Davis on 1970s fusion milestones like *Agharta* and *Pangaea*. The other member of the trio is the young bassist Joe Martin, a frequent collaborator of Sabbagh's who has recorded with everyone from Brad Mehldau to Donald Fagen.

The process of recording *Heart* testifies to Sabbagh's obsessiveness about sound and his remarkable interest in recording.

The session was cut in June 2022 at Studio C at the renowned Power Station in New York, a venue he chose for its intimate sound and acoustics. Sabbagh believes that a group playing together in one room is liable to make better music, and the recording was made live to two-track, with no edits or overdubs. Grammy-winning engineer James Farber used mostly vintage condenser and ribbon microphones, capturing the session simultaneously on Studer A820 and modified Ampex 351 tape recorders, as well as via an Avid HDXII/Pro Tools digital interface. The tape recorders ran $^1/_2$" tape at 30ips. The tapes from the Ampex were mastered by Bernie Grundman on an all-tube mastering chain. As was the case with *Vintage*, the vinyl versions are set to be pressed at Gotta Groove in Cleveland. If this paragraph is making your eyes glaze over, it's enough to know that *very* few recordings go to such extraordinary lengths to achieve their sound.

While I thoroughly enjoyed the superb-sounding *Vintage*, both the playing *and* sound on *Heart* strike me as being on a higher level. Sabbagh sounds more driven and inspired, while Foster drums with boundless inventiveness and charm. And the sound is closer-miked, richer, and even more transparent.

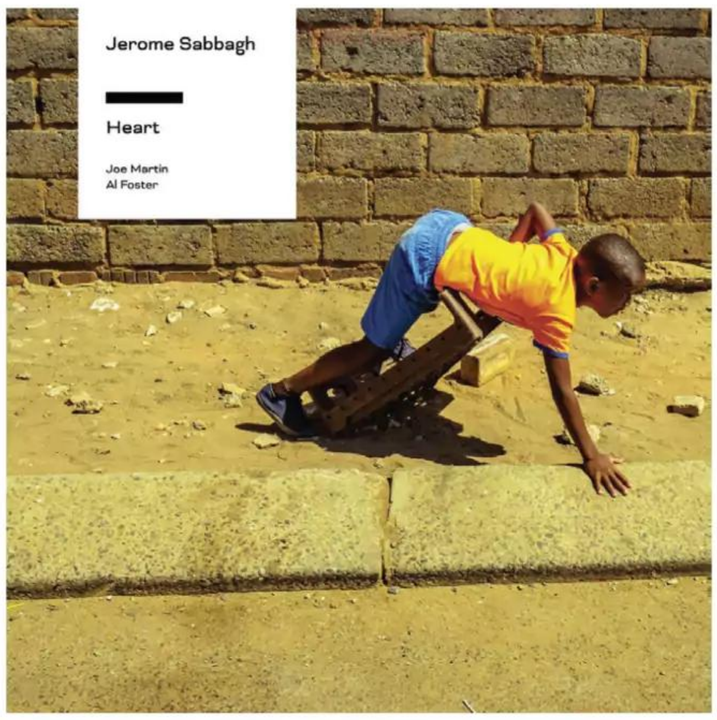
Sabbagh is a fellow wine dork, and before sitting in front of the La Scalas to listen, we got pretty deep into an old Cabernet Franc that smelled the way a shirt smells after a campfire. He wanted to take me inside his recording process, and we began by comparing digital files made from the Avid ADC, the Studer tape, the Ampex tape, and the mastered tape from Grundman.

The Avid file of the first track from *Heart*, Duke Ellington's "Prelude to a Kiss," proved difficult to enjoy. The playing sounded oddly disjointed, as though the musicians weren't listening to each other; its overriding feeling was confusion. "Pretty terrible," Sabbagh muttered, grimacing. The Studer file was a vast improvement: The music swung and danced, and the recorder's Swiss solid state electronics created a transparent, pacey sound. The Ampex file

sounded richer and more colorful, though possibly not quite as agile and musically insightful. Finally, the file made from the mastered tape was the best yet, combining the agility and clarity of the Studer and the lovely tone of the Ampex. The obvious differences between these four digital files of the same performance proved instructive.

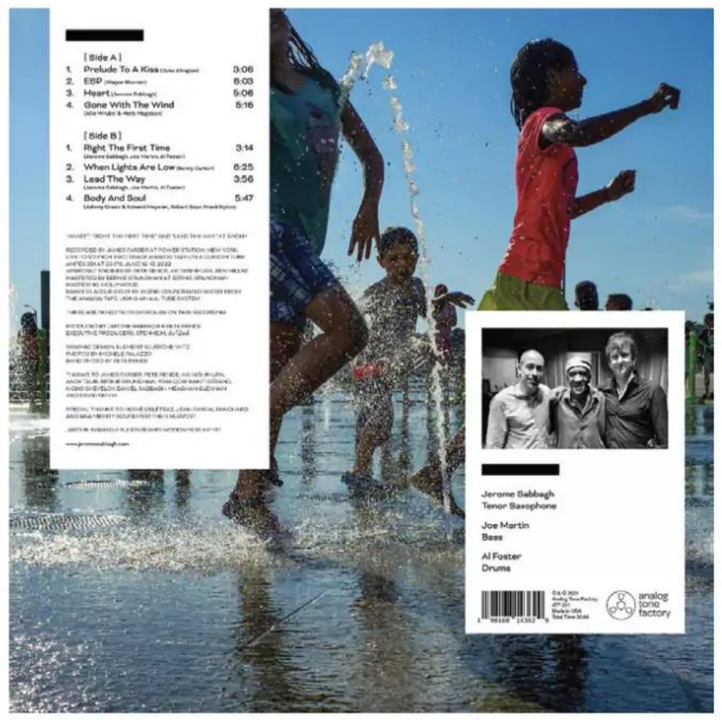
Sabbagh and I had planned to listen to the analog tapes on his Ampex 351 recorder, but the machine was in the shop. So instead, we played Bernie Grundman's lacquer of *Heart*, which Sabbagh was kind enough to bring with him. The sonic experience was so intense that at times I found it hard to believe that I was listening to the same recording. The instrumental timbres, dynamic expression, spatial depth, and overall realism of the lacquer were utterly riveting, among the best recordings I've heard in my home. (If you're curious about the sonic differences between a lacquer and a record, you're not alone. Fortunately, Sabbagh also brought a lacquer of *Vintage*, which we later compared to a mint vinyl copy. I'm sorry to report that the differences were obvious and large, on the order of listening through a new, much better amplifier.)

Could the sound get any better? Well, after we heard the lacquer, Sabbagh took out his Conn New Wonder II tenor saxophone



from 1927, the one we had just listened to him play, and stood between the speakers. He proceeded to play George Gershwin's "Someone to Watch Over Me," the last track on *Heart*. I never imagined that I'd hear a musician on a record only to have him play for me moments later, but there it was. I may have cried a little.

Of course Sabbagh's live performance was completely, phenomenologically different from the recorded versions. Of course it sounded incomparably more real. Yet in another sense it was reassuring, because the recorded version wasn't terribly "worse"



than live. In fact, in some ways, the recording was more intimate and attractive, if not nearly as detailed or natural. I'm still unpacking what I learned. In the meantime, thank you, Jerome, for an inspiring night. I won't forget it anytime soon. ■

CONTACTS

EM/IA
E-mail: info@myemia.com.
Web: myemia.com.

STROMTANK
AUDIO POWER

OFF THE GRID

The Ultimate, Uninterruptable, Independent Power Source

Stromtank doesn't fight the AC. We make our own. The Stromtank S 1000 is a computer-controlled power source that features eight receptacles and provides up to eight hours of continuous lithium-iron-phosphate battery-supplied AC power, seamlessly. When the meter is green, your system is untethered from the grid, and your system's sound is elevated above anything you've heard before. Declare independence!

"THINK OF IT AS REMOVING YELLOWED VARNISH FROM THE PAINTINGS OF OLD MASTERS."

—*JASON VICTOR SERINUS*, STEREOPHILE

STROMTANK.US 203.247.6970

©2022 Stromtank of America

SME

ULTIMATE PERFORMANCE

SME is a world leader in engineering and innovation who, for the past 75 years, has been manufacturing precision-built components for some of the world's most demanding medical, aerospace and F1 racing applications. Their unique advanced engineering expertise is also vital to analog reproduction, where the slightest slippage or unwanted vibration will destroy the delicate audio signal being picked up by the stylus.

The new Model 60 turntable and the new VA Series tonearm advance the company yet again, delivering unrivalled innovation and the most advanced precision engineering and material sciences in the industry, with build quality and a stunning musical performance that other turntable builders simply cannot match – at any price. Experience it today.

STEREOPHILE PRODUCT OF THE YEAR 2023 EDITOR'S CHOICE

Experience the Model 60 at:

Excel Audio	Crescendo Fine Audio	Hi-End Theater & Audio	JS Audio	Soundlux Audio
Newport Beach, CA	Denver, CO	Dallas, TX	Bethesda, MD	Miami, FL
949-933-1599	303-444-4428	972-208-4382	301-656-7020	305-306-7249

To find other SME dealers and learn more please visit **bluebirdmusic.com**

Bluebird MUSIC

the source for modern hi-fi

DISTRIBUTED IN USA AND CANADA BY BLUEBIRD MUSIC LTD
TEL 416 638 8207 BLUEBIRDMUSIC.COM

SPIN DOCTOR

BY MICHAEL TREI

THIS ISSUE: Beyond magnets and coils that move.

Alternative phono cartridge technologies and the DS Audio DS-W3 optical cartridge system

Over the last 50 years, I must have installed well over 1000 phono cartridges, but I still remember the very first one: a Goldring G850 I put into the family Garrard Autoslim turntable when I was 11 years old. In 1973, the G850 was the least expensive moving magnet cartridge Goldring made. The change from the flipover-stylus ceramic cartridge that came with the Garrard wasn't an attempt to satisfy a youthful audiophile itch but, rather, a result of my first encounter with a system compatibility problem.

A few months earlier, I had convinced my nonaudiophile dad to upgrade the family stereo. We went from our ancient Monacor SMX-50 tube receiver to a pretty weird but less ancient Sony all-in-one cassette system called the TC-133CS. I failed to understand that the new Sony's magnetic phono input was incompatible with our old ceramic cartridge. Once I figured that out, I tried to convince my dad that what we really needed was a Shure M75ED. After all, that cartridge came from the same company that made the legendary V-15 Type III, widely regarded as the best cartridge in the world at the time. My dad, however, had different plans. Guided by his home-product purchasing bible, *Consumer Reports*, he decided we should go instead with the less-costly Goldring.

By this point I had already shown a keen interest in audio systems, having moved the old speakers from the Monacor system upstairs to my bedroom, then wiring them into the Sony through a speaker switching panel I built using four old light switches—an early multiroom audio installation! So it fell on me to get it installed and hooked up, and somehow I managed to do it without breaking off a headshell clip or mangling the fragile stylus and cantilever.

The Autoslim had a removable headshell to make things a bit easier, but fancy adjustments such as SRA, azimuth, antiskate, and even overhang weren't possible with the very basic Autoslim tonearm. It *did* have a spring you could twiddle to change the tracking force, but with no equipment to measure it, I just took a guess at where to set it.

This is a skill I will still occasionally test myself on, seeing how close I can get to a desired tracking force just going by feel. (Don't try this at home.) The G850 has a tracking force range of 2.5 to 4gm, so it is tolerant of this type of potential abuse. I still own many of the Led Zeppelin and Deep Purple records I played on that turntable all the way through my teenage years, and they sound just fine, so I can't have been wildly off.

Crystal and ceramic piezoelectric phono cartridges have had an up-and-down roller-coaster ride of popularity over the decades. In the 1940s, as acoustic phonographs were being replaced by electrical record players, crystal piezoelectric cartridges dominated the market, and it wasn't until the late 1940s and early 1950s that magnetic cartridges began to assert their superiority. More reliable ceramic piezoelectric designs eventually replaced the fragile crystal ones, and even into the early 1970s, ceramic cartridges were being fitted to low-cost console and portable record players. By the 1980s, as the Compact Cassette and eventually the CD replaced vinyl records for most casual users, these cheap cartridges all but disappeared. The vinyl revival of the late 2000s brought ceramic cartridges flooding back, as millions of teenage girls bought low-cost suitcase record players from stores like Urban Outfitters to play their Taylor Swift and Demi Lovato records. Most of these came with a ceramic cartridge called the

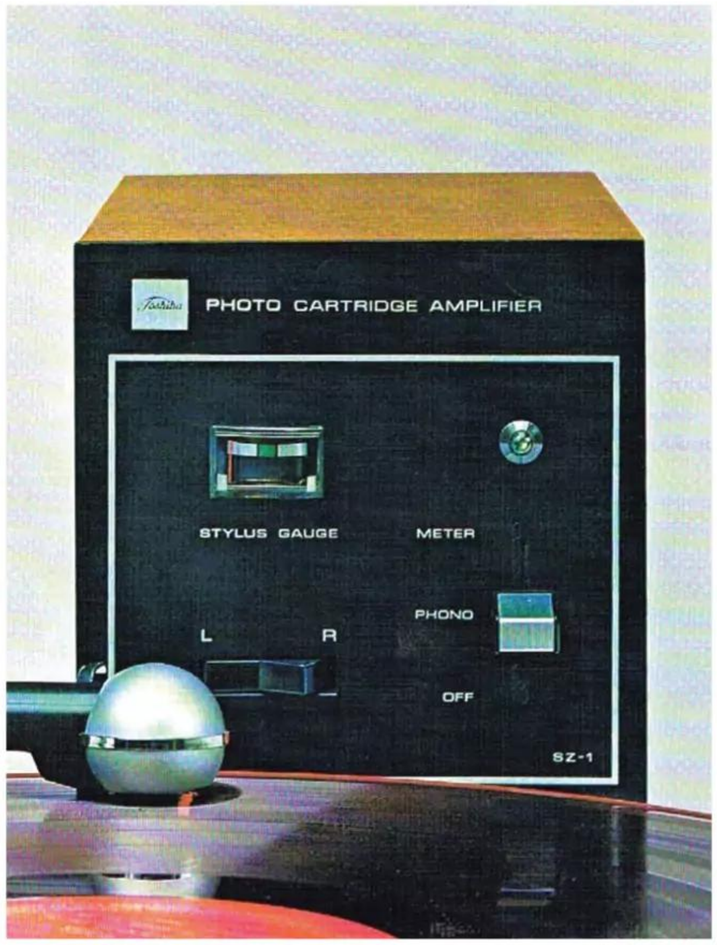
Chuo Denshi CZ800, either that or a Chinese knockoff.

These days, most audiophiles tend to think of cartridges as falling into one of two camps: They're either moving coil or moving magnet. But that's a bit like thinking that all cars are either automatic or stick shift. While the vast majority of cars fit into one of those two categories, plenty of cars out there have CVTs, and an increasing number of electric cars don't use a variable transmission at all.

Over the decades, there have been a slew of different cartridge technologies that don't fall neatly into the two main baskets. For starters, consider induced-magnet cartridges, which typically get tossed into the moving magnet camp despite having magnets that don't actually move. Instead of mounting the heavy permanent magnets directly on the moving cantilever, these cartridges use a lighter piece of iron or other permeable metal, positioned so that its movements cause the magnetic field between a fixed magnet and coil to fluctuate. The goal is to combine the low moving mass of a moving coil design with the high output and user-replaceable stylus of a moving magnet. Also called moving iron cartridges (and "fixed coil" by Soundsmith), this approach is favored by Grado, Soundsmith, Goldring, and Nagaoka.

Then there are cartridges that get away completely from the coil-and-magnet approach. Stax, today best known for their electrostatic headphones, made a range of electret-condenser cartridges including the CP-20, CP-40, and CP-X. Toshiba also made cartridges of this type. Then there's the ELP laser turntable, which reads the groove using reflected laser beams. Another legendary design is the strain-gauge cartridge, with products like the Euphonics Miniconic integrated arm and cartridge from Puerto Rico and the Panasonic EPC-450 and EPC-451 cartridges, which in the 1970s and '80s were adopted by high-end companies Win Labs and Electro Research and possibly others. Strain-gauge designs went dormant for a while until the technology was revived by Peter Ledermann at Soundsmith in the form of his SG system, one of which I recently installed.

Finally, there's the optical cartridge, which many folks are surprised to learn goes back more than 80 years, to Philco, which in 1941 introduced a record player that would play "music on a beam of light," using an optical sensor receiving light from a bulb reflected by a tiny mirror attached to the cartridge's cantilever. Back then, they were playing mono 78s with a standard groove, but it was still a remarkable achievement. Unfortunately, Philco's timing wasn't good, as the United States soon entered World War II. The "Beam of Light" record player went away as the company switched over to the war effort.



Decades later, the optical cartridge was revived by Toshiba, leading directly to the latest generation of optical cartridges from DS Audio, thanks to Tetsuaki Aoyagi.

Shortly after leaving university, Aoyagi, DS Audio's CEO and founder, set himself a life goal of creating a unique product that would bring people joy. He knew that to be successful he would need to have the acumen to start and run a business, so he tested his ability by giving himself a year to pass Japan's tough Certified Public Accountant exam. He figured that if he couldn't manage that, he simply didn't have the chops to be an entrepreneur. He would just enter Japan's corporate world instead.

After passing the exam, Aoyagi quit his job at an auditing firm, then went to work for his father's contract optical-engineering company as he figured out what unique product he wanted to bring to the world. Digital Stream Corporation specialized in small-scale optical-technology contract work. While working there, Aoyagi had a chance encounter with a Mr. Yamada, a consultant for Digital Stream. Yamada, who was an audiophile, invited Aoyagi to visit his home to experience the sound of vinyl records played through his audio system. Aoyagi wasn't an audiophile, but the clarity and dynamism he heard listening to Michael Jackson's *Thriller* made him realize how much he had been missing listening to music through his MiniDisc player and iPod. Yamada attributed much of the performance of his system to the phono cartridge, a vintage Toshiba C-100P optical cartridge made in the 1970s (photos left). The C-100P was an extraordinary cartridge, but it had a reputation for fragility due to the heat generated by its incandescent light source.

Aoyagi quickly realized that he had found his unique product. He leveraged the resources of Digital Stream to create a new, more reliable optical cartridge with a cool-running LED light source and modern materials and manufacturing. DS Audio's first optical cartridge, the W1, was launched in early 2014. In the decade since, the lineup has expanded up and down in price, to six models. The most recent, the DS-W3 ($5000), is under review here. It sits near the middle of the range. "W3" indicates that it's the technology's third generation.

DS Audio has made it clear that their goal is to promote optical cartridges as a concept, not just to profit from their own products. Instead of trying to lock down the company's work behind patents and hidden "secret sauce" circuitry, they have made their design specifications public while supporting manufacturers who want to create their own optical cartridge platforms. A page on the DS Audio website includes a list with photos and specifications of optical cartridge equalizers made by companies such as Meitner, its sister company EMM Labs, Soulution, Soulnote, and Uesugi Research Institute. Ed Meitner of EMM Labs and Meitner was so impressed by the optical approach that he says he will no longer manufacture phono preamps for conventional cartridges. He offers two optical cartridge equalizers, one from each of his companies.

While these cartridges must be used together with a compatible equalizer, DS Audio allows you to mix and match cartridges and equalizers, so you could, for example, buy a W3 from DS Audio and an equalizer from Meitner or Soulution. It also means you can upgrade just the cartridge or just the equalizer. For this review I received, along with the DS-W3 cartridge, its matching DS-W3 equalizer ($10,000).

Until just a few years ago, $15,000 was top dollar for any phono cartridge. Remember though that this is a complete phono system, delivering an RIAA-corrected line-level signal, eliminating the need for

a separate phono preamp. I think of it as a $5000 cartridge with a $10k phono preamp.

Over the years, the two most common questions I get asked about the DS Audio cartridges are Do they read the groove walls optically? and Is the signal digitized? The answers: no and no.

Like any other cartridge, optical cartridges have a cantilever and stylus that rides in the record groove physically. The difference is that an LED light source and an optical sensor replace the coils and magnets of conventional designs. Analog purists rest assured: No digital conversion takes place; the signal path is 100% analog.

Another question I sometimes get asked is whether this optical business is just a gimmick—or does it have clear advantages over a more conventional design? The answer: Moving mass is lower, allowing the stylus to follow the groove more accurately.

With any cartridge, the stylus rides in the wiggly record groove, and that in turn wiggles the cantilever, the stiff bar that connects the stylus to the generator inside the cartridge. Because the cantilever has to move freely, up and down and side to side, while reversing direction more than 20,000 times per second, it needs to be as light as possible. Sticking a pair of magnets onto it, as in a moving magnet cartridge, adds a significant amount of mass. Moving coil cartridges reduce that mass to tiny coils of wire, making the stylus more responsive. An optical cartridge takes this a step further, with a pair of tiny ultralight shading plates replacing the wire coils.

I feel that the DS-W3 sits right in the sweet spot of the DS Audio range, benefiting from technology trickled down from the $60,000 Grand Master model, including separate light sources and sensors for the left and right channels. A boron cantilever is fitted with a line-contact stylus. With a mass of 7.9gm and an unspecified but lowish compliance, it should work fine in most modern medium-mass tonearms. I installed the DS-W3 in the Brinkmann 12.1 tonearm, which has an effective mass of 14gm, on my Brinkmann La Grange turntable. The combination worked flawlessly.

The cartridge itself has a curvaceous, brown-painted body without a straight

The New Cronus "*Dark*" Integrated

...Profoundly illuminating

ROGUE AUDIO

Relish a new level of finesse!

pure tube • pure Rogue • pure delight...only $4,495...

Rogue Audio, Inc • Brodheadsville, PA • 570-992-9901 • www.rogueaudio.com

HANA UMAMI BLUE

UMAMI SOUND - EXCEPTIONAL MUSICAL QUALITY

2023 the absolute sound PRODUCT OF THE YEAR AWARD

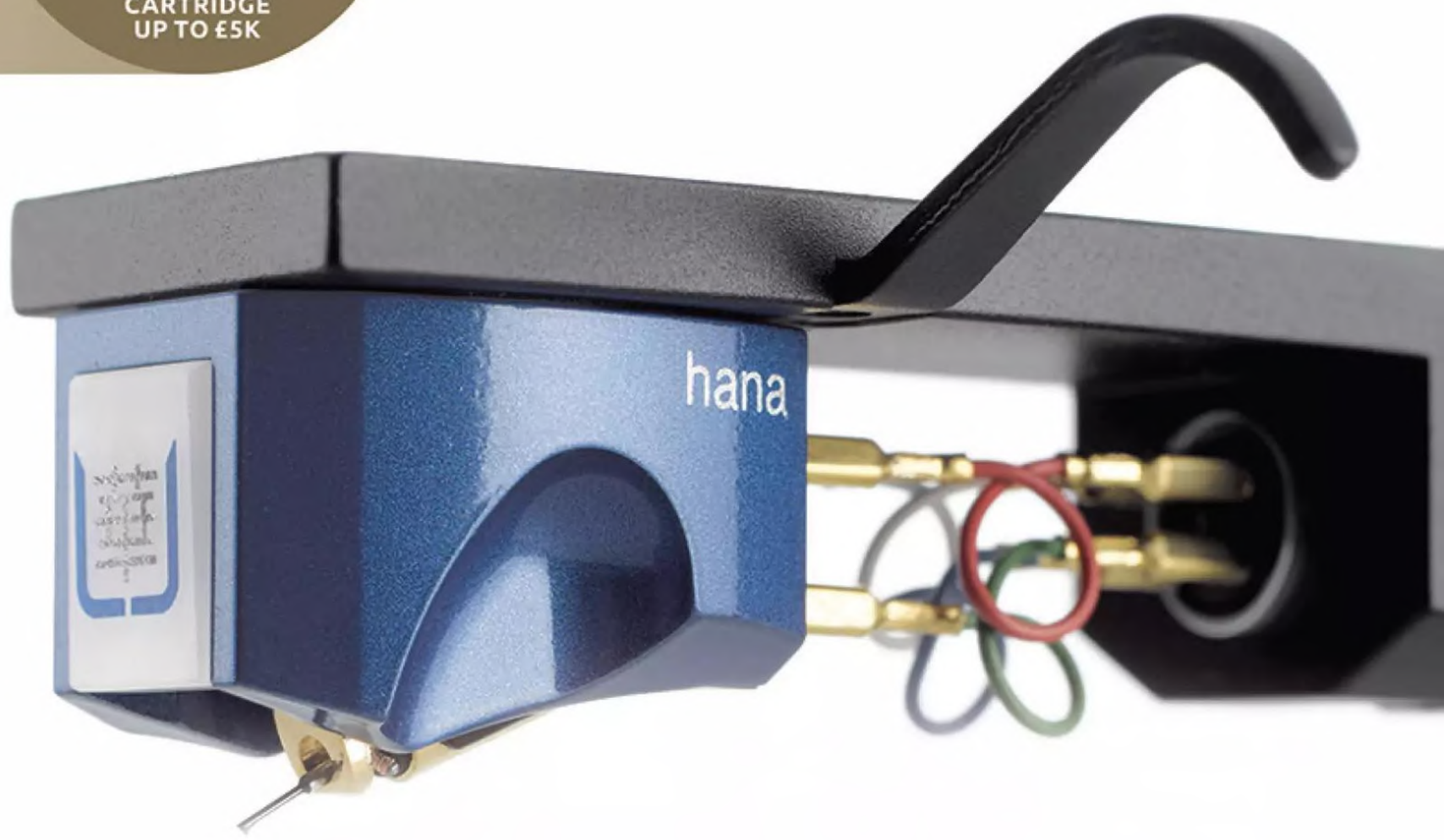
"With the Blue, **HANA** has set another baseline of performance-for-cost, even against competitors into the upper four-digit range. A sonic winner..."

- Andre Jennings, *The Absolute Sound*, January 2024

"The **HANA Umami Blue** brings that high-end cartridge 'wow' factor at a stunning, attainable price. It looks great and it sounds great."

- Alan Sircom, *hi-fi+*, Issue 226

hi-fi+ WINNER 2023 TURNTABLE CARTRIDGE UP TO £5K



HANA 華 UMAMI BLUE

"The Blue very well may be the sweetheart of the **HANA** line. The **HANA Umami Blue** clearly earns my Reviewers Choice Award for a superb phono cartridge design at such an attractive price!"

- Robert Levi, *Positive Feedback Online*, December 2023
PF Writers' Choice Award, 2023

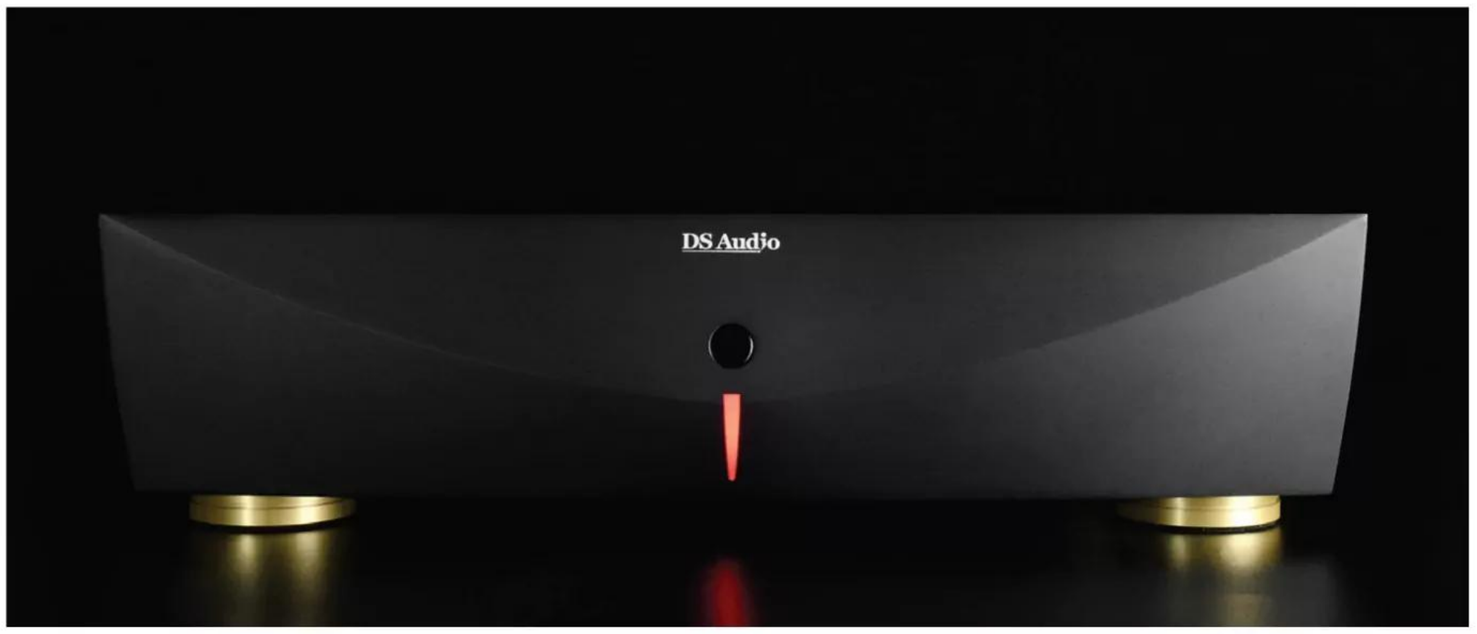
HANACARTRIDGES.COM

line anywhere, accented by a red vertical line that lights up when the cartridge is powered on by its equalizer, which looks cool and helps a little with alignment.

The procedure for installing the DS-W3 is pretty much the same as for any cartridge, with half-inch threaded holes for the mounting screws, and four output pins that connect to conventional tonearm wiring. All the usual alignment parameters are the same, and you can use your preferred alignment tools. The only thing that's different is that the cartridge needs to be connected to its specialized equalizer.

The equalizer itself is a beast. At just under 30lb, it weighs more than a number of power amps I own. The front panel has a single switch to turn the cartridge and equalizer on and off. Around back is a pair of single-ended (RCA) inputs from the turntable and four pairs of outputs, two balanced with XLR connectors and two single-ended with RCA. Set between the connectors is a toggle switch labeled CUT OFF, with a 30Hz position and a 50Hz position, which determines the amount of low-frequency filtering applied to the signal. In my system, I can control the bass response by tweaking my woofer levels and crossover points, so I found I got the best results in the 30Hz position, which has a gentler rolloff.

After breaking in the cartridge for a while with a steady diet of Ozzy Osborne playing in the background, I started my more attentive evaluation with an original UK pressing of David Bowie's *Let's Dance* (EMI America AML 3029). Over the last few years, I have installed a handful of other DS Audio cartridges, and I was always struck by their ability to unclutter dense



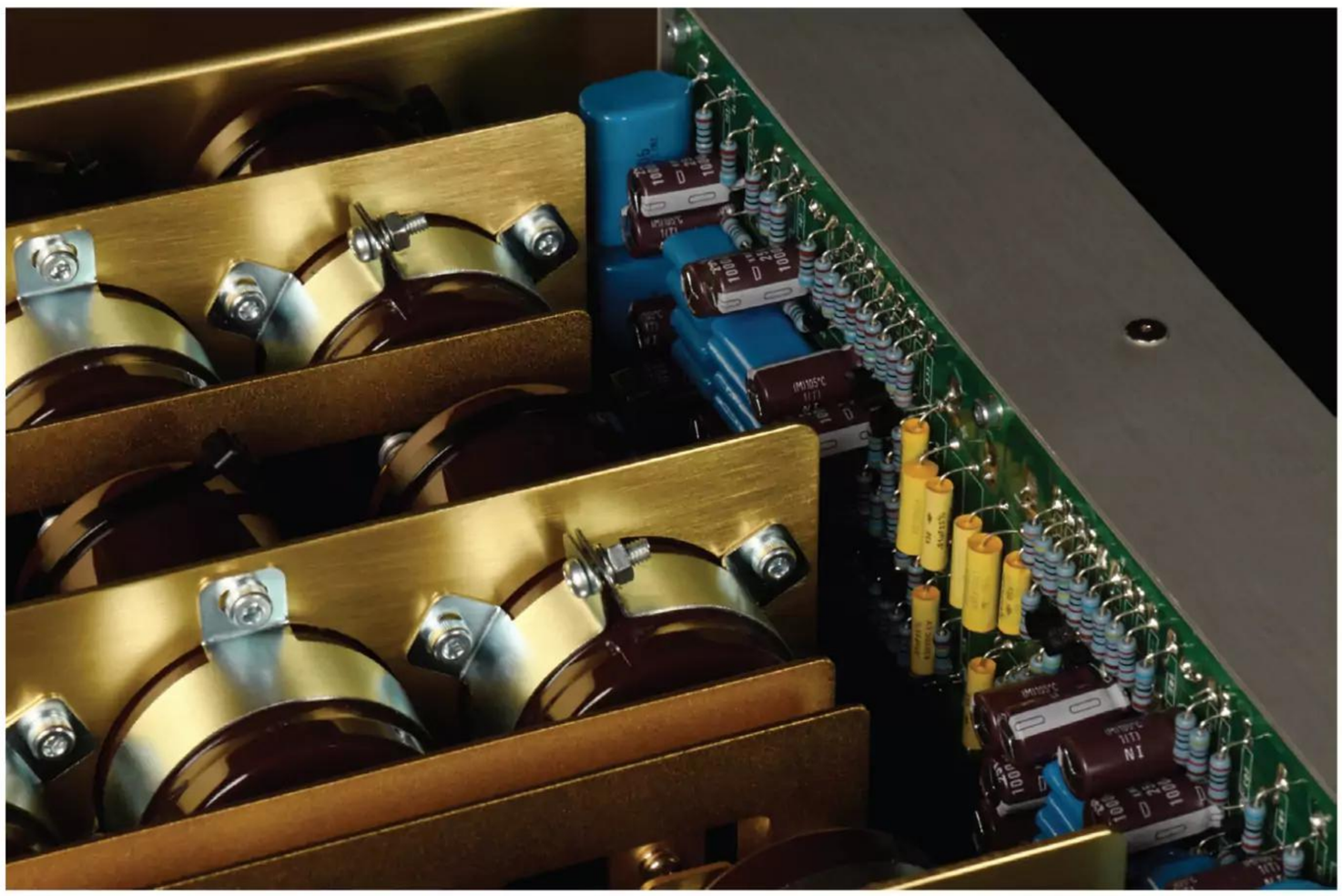
recordings like this one. In place of a wall of instruments, those optical cartridges were able to tease out each individual element of the sound and present its sonic character individually. The DS-W3 exceled at this, so, for example on the title song, I could easily hear how Stevie Ray Vaughan's guitar solos were recorded in their own acoustic, quite different from the acoustic on the rest of the track. I remember how, back when this album was new, I listened for the sections on *China Girl* when Carmine Rojas started playing a little triple motif on the bass. Back then, this could be tricky to hear unless your system was really dialed in. With the DS-W3 it was stupidly obvious.

Changing gears, I put on Bill Henderson's *Live at the Times* (Discovery DS-779) and played his well-known rendition of "Send in the Clowns." This simple live recording required no unraveling, but the purity, tonal richness, and conventionality of Bill's vocal was striking. The DS-W3's ability to focus and put instruments and voices in proper perspective was uncanny. It offered a deep and sharply defined soundstage on recordings with that potential, like this one.

John Lennon/Plastic Ono Band (Mobile Fidelity MFSL 1-280) presents John at his most raw and intimate. Each track has an individual sound, with John's voice frequently doubled using the automatic double tracking he preferred. On "Working Class Hero," the contrast between the two edited-together takes was crystal clear with the DS-W3. With this album's stripped-down, intimate production, it feels on every song as though John is standing next to you in the room.

The DS-W3 is one of those cartridges that makes you want to dig through your records, asking yourself, "How is *that* one going to sound?" It has an extraordinary ability to pull new music and life out of old grooves while not imposing a character of its own on the sound. This cartridge isn't bright or dark, warm or rich, but it can be all those things when the recording demands it.

Whether optical cartridges become widespread the way Tetsuaki Aoyagi hopes is yet to be determined, but, based on how the DS-W3 sounds, I feel optimistic that more companies will embrace this reborn technology. In the meantime, the DS-W3 is enthusiastically recommended. ■



CONTACTS

DS Audio
Digital Stream Corporation
4-50-40, Kamitsuruma-Honcho,
Minami-ku, Sagamihara. Kanagawa
252-0318, Japan
Tel: +81-427-47-0900
Web: ds-audio-w.biz

US importer:
Musical Surroundings
5662 Shattuck Ave.
Oakland, CA 94609
Tel: (510) 547-5006
Web: musicalsurroundings.com

AUDIO
AS GOOD AS WHEN IT LEFT
THE DESK

DIGITAL AUDIO – MADE PERFECT BY MELCO

It's that simple. The unrivalled sound reproduction of the N1 and sister model N5 – provide the listener with digital music storage, playback and streaming at a sonic quality, that we believe, has probably never been matched in your home. Our new flagships have been designed from the ground up. With the lessons learnt from over 45 years of fastidious Japanese craftsmanship and dedication, with a dream of audio perfection. We make our equipment by hand, to the exacting standards laid down by Makoto Maki, the founder of Melco. Everyone a mark of his audio obsession. Let his obsession be your pleasure.

Make an appointment to hear the difference.

MELCO™

SOUND INVESTMENT

www.melco-audio.com

Tel: 518-261-6464 | **Email:** sales01@luxmanamerica.com

HAND CRAFTED IN JAPAN BY AUDIO MASTERS

Distributed in the USA by Luxman America | luxmanamerica.com

Every product listed here has been reviewed in *Stereophile*. Everything on the list, regardless of rating, is genuinely recommendable.

Within each category, products are listed by class; within each class, they're in alphabetical order, followed by their price, a review synopsis, and a note indicating the issues in which the review, and any subsequent follow-up reports, appeared. "Vol.46 No.7" indicates our July 2023 issue, for example. "WWW" means the review is also posted online.

Stereophile's Recommended Components list is concerned mainly with products available in the US through hi-fi retail outlets. Companies that sell only through dealers must have well-established dealer networks. Products sold online also qualify, but companies that sell *only* online must demonstrate the capacity for satisfactory customer support, preferably here in the US. A no-risk at-home audition is strongly preferred whether it's provided by an online or bricks'n'mortar dealer. Occasionally, we'll list a product of exceptional value when a restocking fee is required for returns.

We recommend you read our Recommended Components synopses to decide which reviews to read, then read each product's review carefully before seriously contemplating a purchase, as many salient characteristics, peculiarities, and caveats described in reviews cannot be covered in a *circa* 200-word synopsis.

Almost all reviews of current products are available online at stereophile.com. The editors regret that we cannot supply copies of individual reviews.

THE NUTS AND BOLTS

If you've read this far, please keep reading. Most of the questions we receive and see posted online are answered in this short essay. Reading it all the way through shouldn't take more than a couple of minutes.

This listing was compiled after consultation with *Stereophile*'s reviewing staff and editors—including, notably, Technical Editor John Atkinson. Our ratings take into account what we heard during the review period but also our continued experience with the product (if we've had any) since the review was published. Post-review experiences may cause a product to be downgraded or removed—or upgraded.

Class ratings are based on performance, including performance in the listening room and on the test bench. Products are downrated when, and to the extent that, their deficiencies interfere with the full realization of the musical performance and the pleasure of the listener (although obvious limitations, such as limited bass extension in a minimonitor, are understood and so not viewed as defects).

Measurements matter, but we do not expect every component to aspire to the best measurements possible; to do so would incentivize conformity, boredom, and metric-gaming, all of which we oppose. We do not expect our measurements of a traditional tube amplifier, for example, to closely resemble those of a perfectionist solid state design. In any case, the reviewer's experience with real music is the most important factor in assigning ratings.

Class ratings are based on performance, but different reviewers value different aspects of performance, so it's best not to expect thematic or methodological consistency. You'll find high-tech amplifiers with vanishingly low noise and distortion listed alongside old-school tube amps; what they share is a demonstrated ability to provoke musical bliss in their respective reviewers. Recommendations, then, are most useful to those who share, or at least are aware of, reviewers' tastes and proclivities and the reviewing context.

The best use of this list, and of the reviews from which it is derived, is to help you decide what to audition. In today's market, with fewer dealers (especially for high-end gear), you may need to travel to hear a component; that makes a resource like this more valuable than ever.

Never turn down an opportunity to audition a component, especially in your own system, because even the highest-quality component will not work optimally in every system and room. This is especially true of loudspeakers, but it's true of other components, too.

The prices indicated were current when the listing was compiled (January 2024). Some prices may now be higher, others lower.

There is a near-universal consensus that

at some point in the upward climb of product prices, diminishing returns set in: Doubling the price may get you only a 10%—or 5%—improvement. Where we have found a product to perform much better than might be expected at its price, we have drawn attention to it with $$$ next to its listing. Otherwise, class ratings do not explicitly take price into account.

We believe that value in hi-fi is precisely that: a *value*. It's personal. We can't make that decision for you. Still, it's fair to assume that every reviewer implicitly factors value into their opinions about the products they review.

Products discontinued by their manufacturer are removed from the list, as are those that have been revised in ways that could affect sonic performance. Such revisions often lead to a follow-up review, but not always. When a product is removed from the list, we endeavor to report *why* it was removed. Look for a Deletions listing at the end of each category.

Many products are deleted from the list while they're still in production. That does not mean we've suddenly decided they're unworthy or that they suddenly started sounding worse. Most products remain listed for little more than three years, for two reasons. First, there's only so much space in the magazine. The second, it's impossible to compare a component to others when your memory of it is dim.

Products part of a reviewer's "kit" may be kept on the list because they have been heard recently, but a product may remain on the list simply at the editor's discretion. On this list, I've retained loudspeakers in Class A (Full-Range) simply because, as they lack the usual blurbs, those entries take up little space.

Reviewers are identified by initials:John Atkinson (JA), Jim Austin (JCA), Rogier van Bakel (RvB), Martin Colloms (MC), Brian Damkroger (BD), Jason Davis (JD), Robert Deutsch (RD), Art Dudley (AD), Tom Fine (TF), Michael Fremer (MF), Tom Gibbs (TG), Larry Greenhill (LG), Alex Halberstadt (AH), Jon Iverson (JI), Fred Kaplan (FK), Michael Lavorgna (ML), John Marks (JM), Sasha Matson (SM), Ken Micallef (KM), Julie Mullins (JMu), Thomas J. Norton (TJN), Herb Reichert (HR), Kalman Rubinson (KR), Rob Schryer (RS), Jason Victor Serinus (JVS), and Michael Trei (MT).**—Jim Austin**

HOW TO USE THE LISTING

The classes each cover a wide range of performance. Carefully read our descriptions here, the original reviews, and (heaven forbid) reviews in other magazines to put together a short list of components to choose from. Evaluate your room, your source material and front-end(s), your speakers, and your tastes. With luck, you may come up with a selection to audition at your favorite dealer(s). *"Recommended Components" will not tell you what to buy any more than* Consumer Reports *would presume to tell you whom to marry!*

CLASS A

Best attainable sound for a component of its kind, almost without practical considerations; the least musical compromise. A Class A system is one for which you don't have to make a leap of faith to believe that you're hearing the real thing. When hi-rez became available, we introduced a new Class, A+, for the best performance in those digital categories. Class A now represents the best that can be obtained from 16/44.1 resolution. We also created Class A+ categories for turntables and phono preamps, originally to recognize the achievements of the Continuum Caliburn and Boulder 2008, respectively. More recently, we created Class A+ for headphones.

CLASS B

The next best thing to the very best sound reproduction; Class B components generally cost less than those in Class A, but most Class B components are still quite expensive.

CLASS C

Somewhat lower-fi sound, but far more musically natural than average home-component high fidelity; products in this class are of high quality but still affordable.

CLASS D

Satisfying musical sound, but these components are either of significantly lower fidelity than the best available, or exhibit major compromises in performance—limited dynamic range, for example. Bear in mind that appearance in Class D still means that we recommend this product—it's possible to put together a musically satisfying system exclusively from Class D components.

NOTE TO READERS

Due to space limitations, the following sections had to be omitted from this print edition of Recommended Components: Subwoofers; Digital Datalinks; Interconnects; Loudspeaker Cables; Miscellaneous, Phono, & Powerline Accessories; Stands, Spikes, Feet, & Racks; Computer Software; Room Acoustic Treatments; FM Tuners; and Books. These can be found at stereophile.com/category/recommended-components.

TURNTABLES

A+

J.SIKORA REFERENCE: $47,000 WITHOUT TONEARM

This Polish company's top-of-the-line turntable is a nonsuspended, high-mass design, weighing 253lb. The dynamically and statically balanced platter alone weighs 40lb! Drive is with four square belts spun by four Papst DC motors. MF found that the plinth was immune to knuckle raps and motor start-up noises and wrote that the Reference was very quiet. He decided that this J.Sikora 'table had been superbly tuned to extract deep, well-controlled bass free of overhang or excess. The measured speed accuracy was impressive, as was its isolation from the outside world. Using J.Sikora's own KV12 VTA tonearm ($8995) as well as SAT and Kuzma tonearms, MF couldn't find fault with any aspect of the Reference's sonic performance or its machining and physical presentation. He summed up: "For those willing to make the expenditure, add the J.Sikora Reference to the list of great mass-loaded turntables at this price."(Vol.45 No.7 WWW)

OMA K3: $363,000 INCLUDING POWER SUPPLY AND K3 TONEARM

MF described this idiosyncratically styled, massive, and very expensive turntable as looking "somewhat like the Guggenheim Museum topped by a heliport and a construction crane." Even so, he was impressed by its performance, with the 11.1" "aluminum girder" Schröder tonearm fitted with Ortofon Anna D, Lyra Etna λ Lambda SL, and Lyra Atlas λ Lambda SL phono cartridges. He described the K3's sound as "fast, clean, detailed, highly resolving, super-transparent, effortlessly dynamic, and capable of producing unparalleled transient precision and depth-charge-deep bass 'wallop' that's fully extended yet totally free from overhang." He concluded, "As with any truly great audio product, regardless of price, the OMA K3 turntable speaks with a singular voice." Offers 33 1/3, 45, and 78rpm speeds. Dedicated stand costs $40,000. (Vol.44 No.10 WWW)

SAT XD1: €200,000 WITHOUT TONEARM, €260,000 WITH CF1-09TI TONEARM

This extraordinary and extraordinarily expensive Swedish turntable begins life as a Technics SP-10R direct-drive motor system, which is stripped down to a handful of essential components, reimagined, reengineered, and rebuilt to much higher mechanical standards. Marc Gomez focused on isolation from external disturbances, speed stability, rigidity, and vacuum hold-down. There are "pods" for two armboards. The platter's top layer is made from a "proprietary advanced technical polymer infused with carbon-fiber micro powder and UHM carbon nanotubes." The XD1's price includes a custom, low-profile, Minus K–based "negative stiffness" isolation platform, and the control electronics are housed in an outboard chassis machined from a single block of aluminum that sits on 10Hz-and-up isolation feet. The result, with SAT's CF1-9Ti tonearm, was better than with MF's long-term reference turntable, the Continuum Caliburn: "With the SAT 'table, every drum and bass element was in its place for the first time—ever. They were smaller, deeper, far more powerful, and controlled; the attack, sustain, and decay occurred on time. This allowed previously overwhelmed, blurred, and buried instruments to emerge in a clarified mix that produced greater musical excitement and zero listening fatigue." MF concluded that the SAT XD1 with the CF1-09Ti tonearm (€76,000 when purchased with the turntable) was the best-sounding, best-engineered, best-built turntable he's had in his system to date. (Vol.43 No.12 WWW)

SME MODEL 60: $74,900 INCLUDING THE SERIES VA TONEARM

This suspended, mass-loaded, belt-driven, flagship turntable comes preinstalled with SME's Series VA tonearm, which is not available separately or on any other turntable. The Model 60's price depends on the finish: A honeycomb finish adds $7000; a diamond-polished finish adds $14,000. The Model 60 offers 33 1/3 and 45rpm speeds only. "Intense dynamics and tight, powerful bass extension have long been hallmarks of SME turntables, and the Model 60 pushes that reputation

ACOUSTIC SIGNATURE

FUTURE CLASSIC!

VERONA NEO

www.acoustic-signature.com

+1 (888) 2796765 for North America only

15 YEARS WARRANTY

even further," MT wrote, adding that the Model 60 "also offers a sense of ease and effortlessness." He summed up the Model 60 writing "This turntable is capable of extracting an astonishing amount of music from the record groove. It should be considered the new real-world reference against which other turntables can be judged." On Paul Miller's test bench, the sintered bronze bearing, with its oil-damped ball, was so precisely machined and polished that both through-groove and through-bearing rumble were truly state-of-the-art. The tonearm, which has a cast-magnesium-alloy armtube, featured a "freedom from complex resonance, and general clutter [that] was quite remarkable," PM concluded. (Vol.46 No.8 WWW)

TECHDAS AIR FORCE ZERO: $550,000 WITH TUNGSTEN PLATTER, $500,000 WITH TITANIUM PLATTER

TechDAS founder Hideaki Nishikawa's ultimate analog statement, the Air Force Zero is limited to a production run of just 40 units. Weighing 725.5lb with its ultraheavy main subchassis assembly, it combines rebuilt, new-old-stock, high-torque Papst motors driving multiple massive platters with a customized air-bearing spindle and flywheel. LPs are held in place with a vacuum hold-down system. Using SAT and Graham tonearms and his reference phono cartridges from Lyra and X-quisite, MF found that the Zero "let through each cartridge's timbral and dynamic character while imparting its own unique and immediately recognizable weight, sledgehammer 'slam,' ultragenerous sustain and decay, and the blackest backgrounds I've heard a turntable produce. ... no other turntable, or none that I've yet reviewed, so effectively sinks unwanted and extraneous noise while passing the musical goods with effortless ease, often in the most subtle and nuanced ways." (Vol.44 No.9 WWW)

A

ACOUSTIC SIGNATURE MONTANA NEO: $33,995 WITHOUT TONEARM

Nonsuspended, mass-loaded, triple-belt–driven turntable with a constrained-layer–damped, 55lb aluminum-alloy chassis sitting on height-adjustable, gel-damped feet. The outboard power supply features a vibration-canceling system that combines hardware and software to control the three 24-pole, two-coil AC motors. Offers 33 1/3 and 45rpm speeds. With the Montana NEO fitted with Acoustic Signature's TA-7000 NEO 9" tonearm—see "Tonearms"—and an Ortofon A95 phono cartridge, MF found that with a 1980 orchestral LP, the timbral, spatial, and dynamic presentation was "warm and inviting and intensely three-dimensional." He added that the "well-damped but not *over*damped, fully controlled, supremely well-focused, rock-solid stable presentation produced a memorable 3D picture." This was similar, he noted, to his impression of the A95's sonic character; changing to an AudioQuest Etna λ Lambda SL produced "a more generous, rich, full midrange and midbass, a presentation that added spatial context and richness to vocals and acoustic instruments." MF summed up the Montana NEO/TA-7000 NEO combo as "a neutral and revealing carrier." (Vol.45 No.1 WWW)

AMG GIRO MK II: $8500 WITHOUT TONEARM

Significantly upgraded compared with the original Giro that HR favorably reviewed in 2017, the MK II features a thicker, 40% heavier platter, which gives it a substantial increase in mass and rotational inertia, hence improved speed stability. Drive for 33 1/3 and 45 is still via belt from a DC motor, with a switch-mode supply supplied as standard. (An outboard linear power supply is available as an optional upgrade for $1200.) Tonearm is still AMG's 9W2—see Tonearms—with its wiring terminated in a DIN socket. The Giro doesn't come with a standard tonearm cable; rather, AMG offers four levels made for them by Cardas: the Basic ($300), Standard ($600), Reference ($1500), and Turbo ($2250). The review sample came with the Reference cable. MT found setting up the Giro straightforward but noted that as the turntable doesn't offer any isolation, care needs to be taken choosing where and on what to place it. Using a Benz SLR Gullwing phono cartridge, MT commented on the excellent retrieval of recorded detail offered by the AMG "without muddling the sound or glossing over details." He was also impressed by the player's speed stability, commenting that with a close-miked piano recording the Giro was "able to combine tonal richness with the solidity you get from piano chords when there's no insecurity or waffling about pitch." (Vol.45 No.12 WWW)

CLEARAUDIO REFERENCE JUBILEE: $30,000 INCL. TONEARM

A belt-drive design that uses a POM main platter sitting on a stainless steel subplatter flywheel, the boomerang-shaped Jubilee features a patented Ceramic Magnetic Bearing and a Panzerholz plinth. An updated 9" Clearaudio Universal tonearm is included in the price and features a carbon fiber armtube. Also included in the price are Clearaudio's 1.6lb Statement Clamp, 1.5lb Outer Limit peripheral clamp and locator rim, and Professional Power 24V DC power supply. KM found that the turntable ran about 0.3% fast. He wrote that the Reference Jubilee's sound combined vivid detail retrieval, forceful dynamics, a delicate, refined top end, and a translucent midrange. Levels of resolution, clarity, transparency, and trueness-to-source left him vinyl-shocked and thinking, "So that's what's on this recording?" He added that the Reference Jubilee, Universal Tonearm, and Jubilee MC cartridge "combined staggering detail, energy, and forward-flow allied to a 3D stage that was large, deep, and transparent. The music it made was profound and life-affirming." (Vol.45 No.7 WWW)

DR. FEICKERT ANALOGUE BLACKBIRD: $7495 ★

The standard Feickert Blackbird is a belt-driven turntable in which a Delrin platter is propelled by two (!) high-torque AC motors, with provisions for mounting two tonearms. Its plinth is an aluminum-MDF-aluminum sandwich done up in a black Nextel finish. As reviewed by HR, fitted with Jelco's knife-bearing TK-850L tonearm and optional DIN-to-RCA cable, and upgraded with eight inertia-enhancing brass platter weights and a glossy wood finish ($9345 total), the Blackbird ingratiated itself in no time: "I admired the Dr. Feickert Analogue Blackbird the minute I set it up. After a couple of weeks, I was ready to propose marriage." As Herb describes it, "bass through the Feickert-Jelco combo was tighter and more vigorous" than with his AMG G9 player (see elsewhere in "Recommended Components"), and compared to even his Linn LP12, the Blackbird impressed him by re-creating musical momentum in a way that was "noticeably more visceral." Five years after his original review, and having used the Blackbird with dozens of cartridges and three tonearms, HR commented that this turntable moved music forward with a force and momentum that he attributed to the "coercive pull" of the Blackbird's belt-drive motors. He also noted that another contributor to the Blackbird's quiet, solid sound was the way the platter mated the record. Promoted to Class A following Herb's long-term experience, in particular his revisit in Vol.46 No.11. (Vol.41 No.12, Vol.46 No.11 WWW)

GOLD NOTE MEDITERRANEO X: $12,999 W/B-7 CERAMIC X TONEARM

This elegant turntable combines traditional materials with touch-friendly digital technology in arresting fashion, wrote KM when he first encountered the Italian Mediterraneo X at a show. Unusually, the belt-drive turntable's motor has two torque settings: high torque results in a performance reminiscent of direct drive; low torque is more in line with the sound of the belt drive. The B-7 Ceramic X tonearm uses a headshell made from 6000-series aluminum alloy for resonance control and a titanium wand, this stabilized with four high-precision ceramic ball bearings. A touchscreen controls power, torque, rotation speed, a cartridge timer, display brightness, and even cartridge selection. Once the Mediterraneo X was setbup in his system, using a VPI Shyla phono cartridge, KM noted that it was "one quiet record player. In my informal tests, tapping, poking, or rapping on its plinth during playback caused zero vibration/rumble/noise to its cartridge/tonearm assembly." He summed up his time with the turntable by writing "though smooth and quiet, it never strays into blandness or homogeneity. It boasts exceptional forward momentum and, with the right cartridge, faithful adherence to the recorded source. This Gold Note 'table delivers a consistent, flowing, nonmechanical musical experience." (Vol.47 No.3 WWW)

LINN KLIMAX LP12: $30,970 INCL. TONEARM, MC PHONO CARTRIDGE, PHONO STAGE, & POWER SUPPLY

The fully loaded review sample was fitted with the Karousel bearing, a NASA-grade Keel subchassis ($3705), and the optional fluted plinth ($220). Also included were Linn's Ekstatik moving coil cartridge ($7150), Ekos Super Evolution (SE) tonearm ($5645), the machined-chassis version of the Radikal motor controller/power supply, and the Urika phono stage ($10,400 for both). HR found that the Klimax LP12 was dramatically better-sounding than his vintage Sondek. It offered "conspicuously quiet (deep black) backgrounds" and tempo, focus, and immediacy that were "near-laboratory quality." His conclusion was that the Linn Klimax record player "looks like a piece of heirloom furniture, is built to a very high standard of fit'n'finish, and is eternally upgradeable. Its substantial dealer base makes it easily and expertly serviceable in a way few other turntable brands can match. These facts alone make the Klimax worth its price." Also see the entry for the Linn LP12 system in Class B (Vol.45 No.6 WWW)

LUXMAN PD-151 MARK II: $5695 INCL. TONEARM

This new version of a classic three-speed, belt-drive turntable from Luxman impressed MT with its speed stability: wow & flutter were both just 0.02%. This is achieved with a DC motor fed from a "sophisticated" pulse-width modulation power supply. Although there isn't a suspension, when MT held a stethoscope against the top plate adjacent to the motor, he couldn't tell whether the motor was on or off: "It's that quiet." An optional dustcover adds $795 to the price. The LTA-309 tonearm features knife-edge bearings and a H4 bayonet-mount universal headshell, and is sourced from Japanese manufacturer SAEC. MT used an Ortofon Cadenza Blue and Luxman's own LMC-5 for his auditioning, and commented that with the Luxman cartridge a track from Willy DeVille's solo album "sounded tonally vivid and three-dimensional with a soundstage that was wide and deep but tidy." He found that while the PD-151 couldn't quite match the tautness and bottom-end slam of the "vastly more expensive" SME Model 30/2A, it more than held its own in most other areas. (Vol.46 No.3 WWW)

PURE FIDELITY HARMONY: $9995 INCL. TONEARM

This Canadian turntable's price includes the Conductor power supply, SS-10 Record Isolator clamp, three IsoAcoustics GAIA IV feet, and Origin Live Encounter tonearm. (This dual-pivot arm was reviewed by MF in July 2004.) The review sample's premium Quilted Maple finish adds $500. The 2", Ultra MDF plinth sits on a 19lb isolation platform formed from aluminum alloy and is said to be virtually resonance-free and completely neutral in sound. KM found that the Harmony fitted with the Origin Live tonearm and Pure Fidelity's Stratos phono cartridge "took me on a joy ride, exuding all the liveliness and pace, rhythm, and timing of any well-made low-mass 'table but with a neutral tonal balance and a vice-like low-end grip." KM's conclusion: "The Pure Fidelity Harmony brings a beautiful sonic signature to vinyl but with enough transparency to reveal the unique personality of each LP . . . The Pure Fidelity Harmony is one of the finest analog playback machines I've heard, worth every penny of its $9995 asking price." (Vol.45 No.12 WWW)

TECHNICS SL-1200G: $4299.95 INCL. TONEARM

Derived from Technics's limited-edition SL-1200GAE, the three-speed, direct-drive SL-1200G bears little resemblance to the original '1200 from the 1970s that had come to be a DJ favorite. It is an entirely new design "created for audiophiles." The original SL-1200's tonearm—"easily the chintziest thing about that turntable," said AH—has been reimagined, with a new armtube made of cold-drawn magnesium. The arm's gimbal bearings revealed zero wiggle or twist, noted AH, who also found that the turntable rotated at exactly 33 1/3 rpm with just 0.014% wow & flutter. AH installed a Dynavector Te Kaitora Rua cartridge in the tonearm's detachable headshell and started listening. "In stock form, it sounded solid, agile, and impressively neutral, but

also noticeably smaller, grayer, and more mechanical—with shorter note decay—than my Garrard 301/Schick/Box Furniture Co. record player," he wrote. After replacing the stock mat with a Trans-Fi Reso-Mat, "the Technics produced a far larger soundfield, with obviously greater resolution and instrument separation and less apparent noise." Replacing the stock headshell with either the DS Audio HE-001 or Schick graphite headshells improved tracking with the Dynavector "and lent the music more solidity and color." AH then switched the turntable's torque control from automatic to manual and reduced the torque by about a third of a revolution. "The turntable *sounded* mostly the same," he noted, "but its somewhat mechanical, uptight character was nearly gone; now the music flowed and shimmied more convincingly. I also heard improved sustain and decay." Overall, he could think of few turntables that offer as much value as the SL-1200G, adding that the quality of its engineering and execution "makes typical audiophile products look slightly homemade." (Vol.45 No.12 WWW)

THORENS TD 124 DD: $11,999 WITH TP 124 ARM

The original TD 124 turntable from Swiss manufacturer Thorens, with its innovative drive mechanism that utilized both a belt and an idler wheel, was introduced in 1957. It became a classic and examples in good condition are much sought after. The current Thorens company, owned by former Denon manager and ELAC CEO Gunter Kürten, is based in Germany. Rather than manufacture an authentic reproduction of the 1957 TD 124, the TD 124 DD, available in a limited run of 500 units, is intended to maintain as much of the original as possible while updating its function in key areas. The biggest change is the use of a 12-pole direct drive motor. The TP 124 tonearm is also new. It features an internally damped aluminum armtube with a heavy brass counterweight to balance the 30gm weight of the Ortofon SPU 124 cartridge used by KM in his auditioning. (A second, lighter counterweight is included, along with a headshell, for use with more typical cartridges.) KM liked what he heard: The TD 124 DD "excelled at rhythmic punch and dynamics, producing music with vigor and drive. The 'table's low noisefloor made for stark dynamic contrasts as music burst from the subtlest *ppp* to the boldest *fff*." His conclusion? "The designers' most heretical move—replacing the original 124's peculiar drive system, which resulted in a turntable with fluidity and, well, drive—with direct drive has achieved an even more propulsive sound, with a somewhat larger soundstage and better dynamics." (Vol.44 No.8 WWW)

TW-ACUSTIC RAVEN GT2: $12,500

AH described this German belt-drive turntable as "sternly functional ... Everything about the 'table, which weighs 75lb and is made almost entirely of raven-black aluminum, appears thought out ... The GT2 is so precisely machined that lowering the very heavy composite-and-bronze platter onto the upward-facing bearing shaft takes not seconds but minutes." It took him several weeks to zero in on the Raven GT2's sonic character: the "'table did everything so well that I struggled to describe its sound. No single area of performance stood out or seemed overlooked," he wrote. Overall, "on record after record, the German deck was able to excavate spatial and instrumental detail, and imbue recordings with depth and dimension, as well as any I've heard." AH also noted that, unlike other belt-drive turntables, the Raven GT2 had a "nimble" way with rhythm and timing. (Vol.46 No.7 WWW)

VPI AVENGER DIRECT: $36,000 WITH TONEARM

The review sample of this American turntable came with the 12" gimbaled version of the FatBoy tonearm ($4500 when purchased separately), the aluminum JMW Full VTA Base ($1500 separately), a direct drive assembly/motor, a machined aluminum platter, a vented chassis, a stainless steel Periphery Ring Clamp ($1300 separately), three air-suspension feet ($3450 separately), a VPI-branded alignment jig ($75 separately), a poly-weave platter mat, and a Signature record weight ($185 separately). With the Avenger/FatBoy combo fitted with an Ortofon Verismo MC cartridge and playing Henry Mancini's "The Days of Wine and Roses" (from *Our Man in Hollywood*), KM wrote that the Avenger Direct "mined all the musical detail, dimensionality, ambience, and opulence of the Mancini recording, but more importantly, it mined its emotions." KM didn't go into specifics regarding the player's sonic character, writing instead that "I can't help feeling it's cheap to reduce the VPI's performance to separate traits when its great strength is its presentation of such a unified, stirring whole." His conclusion? "I don't know what deed this Avenger is meant to avenge, but its place in the pantheon of great turntables is secure." (Vol.46 No.6 WWW

WAND 14-4: $7875 WITH WAND MASTER LITE 12" TONEARM; $5000 WITHOUT ARM

This New Zealand–made belt-drive turntable's name comes from its platter: the larger size (14") increases rotational inertia without adding significant mass; the platter has four layers including an aluminum/acrylic/aluminum sandwich (for damping), plus an acrylic mat to interface with the record. The 14-4 comes with a switching power supply; a battery supply is available as an option. A speed sensor under the platter automatically adjusts the speed; MT found the speed was spot on at both 33 $^{1}/_{3}$ and 45rpm. He used the 12" Wand tonearm with the 14-4 and warned that the arm's length means that the cartridge ends up hovering precariously close to the power and speed selector knob. "There are no compromises here, and few concessions to ease of setup and use," MT concluded. "But if you're willing to put in the work and deal with the setup anxiety, your patience will be rewarded with extraordinary performance. The Wand excels in areas I consider fundamental to musical enjoyment, such as tonal color and timing. There's nothing warm or sluggish sounding about The Wand, but because it's able to resolve detail so well, it never sounds thin or anemic. 'Vivid' and 'focused' are the words that keep popping into my head." (Vol.47 No.1 WWW)

The Voice That Is

TIDAL
we build emotions.

REFERENCE. ALL TRANSPARENT.

"Transparency" is an independent variable when it comes to perceived sound quality, and no one does it better than Tidal."

~ Andrew Quint / *The Absolute Sound*
Transparency Defined...Again • January 2024

www.thevoicethatis.com
610.359.0189
TIDAL Audio Premium Dealer

2024 the absolute sound EDITORS' CHOICE AWARDS
2023 the absolute sound PRODUCT OF THE YEAR AWARD
REVIEWER the absolute sound REFERENCE

LEARN SOME COOL STUFF ON OUR YouTube

Upscale Audio
HI-FIDELITY MUSIC SYSTEMS
SOUTHERN CALIFORNIA

SEE CUSTOMER SYSTEMS ON OUR Instagram

FYNE AUDIO
Vintage Ten
Floorstanding Loudspeaker
$24,499 (pair)

Heritage hand-built features such as real walnut veneers and burr walnut inlays meet an ultra-modern 10" mid/woofer with 75 mm titanium tweeter.

PRIMALUNA
EVO 300 Hybrid
Tube Integrated Amplifier
$7295

The best of tubes and the best of solid-state in a fully dual-mono design loaded with top-shelf components and sophisticated power supplies.

CABASSE
Rialto
Wireless Bookshelf Hi-Fi System
$3995 (pair)

A complete audio system, and with Cabasse's legendary custom DSP and room correction. Comes with an LCD touchscreen, one amp per driver, and coaxial three-way design.

T+A ELEKTROAKUSTIK
MP 200
Multi Source Streamer / CD Player
$5900

The silver disc is not dead! This high-end German-made CD player and streamer also offers FM, Wi-Fi, and Bluetooth.

HANA
Umami Red
Moving Coil Cartridge
$3950

Ebony wood, rare-earth magnets, precision-cut diamond, Urushi lacquering, and CNC-machined Duralumin synergize under the vision of Hana designer Maseo Okada-san.

CAMBRIDGE AUDIO
CXN100
Network Audio Player
$1099

The all-new CXN100 offers improved control, precision, detail, timing, and top-end sparkle, with resolution up to 768 kHz, 32 bits. Use the excellent Cambridge app, or run Roon.

SBOOSTER
AIB Bluesound NODE
Connection Kit
$523.99

New for 2024: Add this internal power supply board and linear power supply to your Bluesound NODE for a better, quieter level of sonic performance.

Free Expert Setup

Just check a box and have a leading analog expert set up and test your turntable! We will install and align the cartridge, set up and align the tonearm, test and adjust speed, top up bearing oil, and more. Our experts use high-tech tools, but always do final testing by ear. All settings are documented and labeled to make it easy to unpack your table and start rocking.

0% APR for 36 Months*

Check your rate in seconds at upscaleaudio.com without affecting your credit score.

*Subject to approval of credit application. Rates range from 0% to 29.99% APR.
APRs will vary depending on credit qualifications, loan amount, and term.

EXPERT ADVICE. EXCLUSIVE DEALS. NEW & USED.

UPSCALEAUDIO.COM 909.931.9686

B

LINN SONDEK LP12: $3060, TURNTABLE ONLY ★
Since 1972, Linn has devised and offered for their belt-drive, suspended-subchassis flagship all manner of upgrades; commendably, all have been retrofittable. Some standouts: The Lingo power-supply mod of 1990 minimizes the LP12's propensity toward a slightly fat midbass and subjectively "adds an octave of low-bass extension," according to JA. The Keel one-piece subchassis, tonearm board, and Linn-specific tonearm-mounting collar of 2006 makes "an unambiguous improvement in the LP12's performance," according to AD. And the Linn Radikal mod—a DC motor with an outboard switch-mode power supply—impressed Mr. D with "more force, more momentum, and a little more sheer grip on the notes." At present, the least expensive LP12 package is the Majik LP12 ($4320): standard subchassis, wood-composite armboard, single-speed power supply, Pro-Ject 9cc tonearm, and a Linn Adikt moving magnet cartridge. Experience leads us to expect high Class B performance—superbly low measured rumble, excellent speed stability, and very good musical involvement—from an entry-level LP12, while incarnations of the full-monty LP12 have delivered true Class A sound: See the LP12 Klimax entry in Class A. (Vol.7 No.2, Vol.13 No.3, Vol.14 No.1, Vol.16 No.12, Vol.17 No.5, Vol.19 No.2, Vol.26 No.11, Vol.28 No.2, Vol.30 No.10, Vol.34 No.6, Vol.39 No.6 WWW)

MARK LEVINSON NO5105: $7500; WITH ORTOFON QUINTET BLACK PHONO CARTRIDGE: $8500
Designed in collaboration with and sourced from a German manufacturer, this elegant-looking, high-mass (75lb), belt-drive turntable comes complete with a 10" tonearm that features a rigid, glossy, carbon-fiber tube. Michael Fremer found the No5105 easy to set up and use and, with a fast, detailed cartridge like the Ortofon Quintet Black, it produced sound that was rich, relaxed, generous, and typical of higher mass, damped-style turntables. (Vol.44 No.4 WWW)

MOFI ELECTRONICS ULTRADECK: $2499 WITH TONEARM ★
Decades after the first Mobile Fidelity Sound Lab record comes the first MoFi record player—the UltraDeck turntable with Ultra tonearm, both made in the US and created with design input from Spiral Groove's Allen Perkins. The UltraDeck's sturdy plinth comprises three aluminum plates bonded to the top of an MDF core, and its belt-driven platter—machined from Delrin and weighing 6.8lb—rides on an inverted bearing. Four height-adjustable feet, designed in collaboration with Harmonic Resolution Systems (HRS), support the plinth. The Ultra tonearm has a 10" aluminum armtube, Cardas wiring, and a gimbaled bearing. According to HR, the UltraDeck, when used with MoFi's top-of-the-line moving magnet cartridge, the MasterTracker (a $2198 package; the MasterTracker is sold separately for $699), didn't provide the "deep 'black' backgrounds or enormous sound spaces" of the considerably more expensive AMG Giro G9 player, "but it did present me with an infectious, easy-flowing, liquid vitality." According to Herb, the MoFi combo "had stronger energy, achieved bigger dynamic swings, and was more detailed than comparatively priced 'tables from VPI and Rega." (Vol.41 No.2, Vol.45 No.12 WWW)

MUSIC HALL STEALTH: $1649 INCL. TONEARM AND CARTRIDGE
This three-speed, direct-drive deck comes fitted with an Ortofon 2M Blue phono cartridge. HR wrote that what he noticed most with the Stealth and 2M Blue was the "high level of tone correctness." HR was also impressed by the tonearm, which he described as exceeding his expectations. "During use, it felt precise and well-sorted. Its bearings felt just-right tight, and its arm-lift mechanism served me with ... ease and assurance," he wrote. Using Denon's classic DL-103—see "Phono Cartridges"—he found that the Stealth played his 45s more enjoyably than the Feickert Blackbird or the Linn LP12 Valhalla. His conclusion? "I can think of no record player under $2000 that I'd rather use. Or recommend." (Vol.45 No.10 WWW)

PTP AUDIO SOLID9: $4650 AS TESTED
The Solid9 ($2950 in basic form) is a restored, hot-rodded, replinthed Lenco idler drive design built in The Netherlands. A long, gently tapered, horizontally positioned motor shaft drives the bottom of the 8.8lb platter via a skinny, spring-tensioned vertical idler wheel. The Solid9 comes with a completely rebuilt Lenco motor and a restored drive mechanism attached to two thick, stainless steel plates that are flush-mounted in a Corian plinth. HR wrote that to his subconscious mind, "idler drive feels more solidly connected to the music's forward momentum than direct drive does." HR auditioned the Solid9 with PTP's optional outboard Audio Power Controller ($1100), the Solid Bearing upgrade ($350), the optional SCC height-adjustable feet ($250), a Sorane SA-1 tonearm, and a Denon DL-103 phono cartridge. This record-playing system never distracted him from what was happening in the music, he concluded: "That's as high praise as I can give." (Vol.46 No.6 WWW)

REGA PLANAR 3 50TH ANNIVERSARY EDITION: $1695 W/RB330 TONEARM, NEO PSU MK2 POWER SUPPLY & REGA EXACT PHONO CARTRIDGE $$$
Because the 50th Anniversary Planar 3 is shipped as a complete package, the setup process is very simple. The cartridge comes preinstalled, and because the Exact uses Rega's proprietary three-point mounting, its position is fixed in Rega's preferred alignment. MT found that the Planar 3's running speed was "bang-on perfect." Comparing the Anniversary player with an original Planar 3 fitted with an Audio Note cartridge, MT found that "just about every element of the sound has been improved. ... The new Planar just sounds better sorted and like a coherent whole, providing a clearer perspective on the music making. This turntable has a real knack for allowing you to forget about audiophile affectations like imaging and soundstaging so you can just kick back and enjoy your records." Upgraded from Class C with the new version. (Vol.46 No.11 WWW)

SME MODEL 6: $8795 W/SME M2-9 TONEARM
SME MODEL 6 CLASSIC: $9795 WITH SME M2-9-R
SME's least expensive turntable uses an outboard power supply and a chassis CNC-machined from what the company says is a "unique polymer high-density resin material," claimed to have "superb resonance absorption." It sits on four elastomer feet made from a vibration-absorbing compound, but as these aren't height-adjustable, the user needs to make sure the turntable support is level. The belt-driven, 4lb platter appears to be machined from Delrin. The M2-9 tonearm—an MF favorite—can accommodate cartridges weighing 5–12gm, and azimuth, VTA, and SRA are all adjustable. As with all SME turntables, there's no dustcover. While MF didn't like the screw-down three-piece record clamp, he appreciated how the Model 6 performed with Ortofon Cadenza Black and 2M Black LVB phono cartridges. "The more I used it, the more I enjoyed its open, airy sound and its solid bottom end," he concluded. The Classic version substitutes the M2-9-R for the straight-pipe M2-9 provided with the original Model 6, which has a curved stainless steel pipe terminating in SME's familiar locking collet. (A headshell is provided, as well as an extra counterweight that can be threaded onto the arm's rear shaft if needed.) (Vol.44 No.5, Vol.45 No.4 WWW)

TECHNICS SL-1200GR2: $2199.99
See Ken Micallef's review in this issue. (Vol.47 No.4)

VERTERE DG-1S9: $4899–$6999 WITH TONEARM, DEPENDING ON OPTIONS
Designed by Roksan founder Touraj Moghaddam, the UK-built DG-1S, with its Groove Runner S tonearm, is available in three versions with varying combinations of cartridges and accessories, priced from $4899 to $6999. The review model came with the top Sabre package, which includes the Sabre moving-magnet cartridge, Redline interconnect cables, Techno Mat platter mat, three Iso Paw footers, plus an electronic stylus pressure gauge. The optional Challenger DC power supply ($675) can be used in place of the DG-1S's standard wall wart. MT was impressed by how easy the Vertere was to set up. He did find that the DG-1S ran about 0.4% fast, which he described as "not terrible but a little disappointing at the price, and not adjustable." However, the peak wow and flutter reading was excellent, at around 0.18%. "While the bass was fast and clear, it couldn't quite match the power at the very bottom end that you can get from my big, much more costly reference turntables," concluded MT. (Vol.46 No.10 WWW)

C

PRO-JECT DEBUT CARBON EVO: $599 WITH TONEARM & SUMIKO RAINIER CARTRIDGE $$$
This bargain-priced, belt-drive turntable comes complete with a carbon-fiber tonearm, a Sumiko Rainier moving magnet cartridge ($150 when sold separately), and a shielded, directional phono cable. The 3.75lb steel platter is damped along its outer edge with a strip of thermoplastic elastomer. AH found that the review sample, like Rega turntables, ran slightly fast, but also felt it didn't release notes "with quite the screen-door-hitting-them-on-the-ass urgency of the [Rega] Planar 3 (which costs nearly twice as much without a cartridge)." He also found that the Pro-Ject and its cartridge made surface noise more intrusive than many other record players he'd heard. However, AH summed up his time with this turntable by saying "If there's a design parameter more crucial than a hi-fi component's ability to hold our attention and enable us to feel things, I don't know what it is. The Pro-Ject Debut Carbon EVO does this consistently, emphatically, at an attainable price." (Vol.44 No.3 WWW)

PRO-JECT DEBUT PRO: $999 WITH TONEARM & SUMIKO RAINIER CARTRIDGE
Based on Pro-Ject's Debut Carbon EVO turntable, the belt-drive, nonsuspended Debut PRO improves on earlier Pro-Ject models with CNC-milled aluminum parts, an upgraded bearing and tonearm with a hybrid aluminum–carbon fiber armtube, and what KM described as "a few more subtle but still beneficial upgrades." The price includes a Sumiko Oyster Rainier moving magnet cartridge. KM described the Debut PRO's presentation as featuring fast transients, strong dynamics, and crisp highs. "The Debut PRO is a lively, fun, exhilarating turntable; it makes records—or rather music from records—jump, boogie, and sing. ... I was consistently surprised at the Debut PRO's ability to relay gobs of detail in a natural, compelling manner." KM's conclusion? "This ca $1000, handsome-but-unassuming record player proved to me what a manufacturer with decades of experience and expertise can do when designing an analog machine to a price point. The Debut PRO bowled me over with its dynamics, detail, soundstaging, spatial depth, and scale, especially with the more expensive [Sumiko] Wellfleet cartridge. The Debut PRO made the most of every style of music I put to it." (Vol.45 No.1 WWW)

D

DELETIONS

AMG Viella Forte Engraved, Clearaudio Concept AiR Active Wood, w/Satisfy Black tonearm & Concept MM cartridge, w/Satisfy Carbon Fiber tonearm & Concept MC cartridge, discontinued. Döhmann Audio Helix One Mk2, no longer in production, J.Sikora Initial, Kuzma Stabi R with one arm wing, Reed Muse 1C, Rega Planar 1, basic Rega Planar 3, not reviewed in a long time.

TONEARMS

A+

SAT CF1-09TI: €90,000
SAT CF1-12TI: €94,000
These two cost-no-object tonearms appear outwardly identical to the Swedish manufacturer's original CF1 arm. However, there is now a titanium tube running through the carbon-fiber armtube, and the CF1's removable carbon-fiber headshell has been stiffened with a frame made from titanium. The 9" arm was auditioned, but the 12" arm should be just as good (but longer). Prices are when purchased separately; when the arms are purchased with the SAT XD-1 turntable (see "Turntables"), the prices are €50,000 ('9Ti) and €60,000 ('12Ti). (Vol.43 No.12 WWW)

A

ACOUSTIC SIGNATURE TA-7000 12" NEO: $17,995
9" NEO: $15,995
The TA-7000 uses a gimbaled ball/race bearing system and a damped carbon-fiber armtube. It is available with either an SME or Rega-type mount and in 9" and 12" versions. The model reviewed was the 9", which conforms to the standard Rega geometry. It pays to be cautious when adjusting arm height, advised MF, as the pillar goes, in a hair-turn of the grub screw, "from rock-solid secure to dropping like a pound and a half rock." Repeatable azimuth adjustment is also tricky as there are no reference marks. Included with the arm are a rigid, precise alignment jig set to Löfgren A geometry and AudioQuest's entry-level "Wildcat" DIN-to-RCA cable. With an Ortofon A95 phono cartridge, the lateral and vertical resonant frequencies both measured ideally, at approximately 10Hz. (Vol.45 No.1 WWW)

ACOUSTICAL SYSTEMS AXIOM REFERENCE: $24,995 IN BLACK FINISH
The gimbal bearing AXIOM is available in 10" or 12" versions and comes with various precision-machined-and-finished spacers of various heights. MF described the designer's goal as being to produce an infinitely adjustable "universal" tonearm "capable of precisely adjusting every setup parameter you can think of and maybe a few you haven't thought of and to place the settings where they are most effectively implemented." Setup was straightforward, a precisely machined, smoothly operating VTA tower mechanism raising or lowering the arm 1mm with each full knob turn. Mounted on the AXIOM, the X-quisite cartridge delivered clean sibilants and the expected smooth, transparent, direct (if somewhat forward, but not bright) timbral balance. MF found that the AXIOM arm delivered microdynamic shifts that helped produce the appropriate, rolling, flowing feel of the classic Cowboy Junkies album. "If it doesn't quite have the slam and excitement of the far-more-costly SAT CF1-09," concluded MF, "it makes up for that with its smooth, refined, erudite, almost academic presentation." (Vol.45 No.9 WWW)

AMG 9W2: $3800 ★
The German-made 9W2 tonearm from turntable specialists AMG combines a traditional horizontal bearing with a vertical bearing that is, according to AD, unique in its field: "an upright pair of 0.4mm spring-steel wires that are perfectly straight when the tonearm tube is balanced, yet flex in tandem and yield to the armtube's mass when the counterweight is moved closer to the twin fulcrums." The result, he reports, is a near-ideal combination of zero play and absence of friction. VTA and azimuth are easily adjusted, and a magnetic antiskating mechanism is included. AD found the 9W2, when used on his Linn LP12—for which it was apparently designed—to be "the first Linn-friendly arm I've heard that has made me stop sobbing about the demise of the Naim Aro: a considerable feat." Also with reference to his past favorite tonearms, AD added: "None surpasses the 9W2 in sheer build quality." HR enjoyed the 9W2 as part of AMG's Giro G9 record player, and said of the arm's vertical bearing, "to my reckoning, this is a simple and supremely effective innovation." The 9W2 was supplied with the MK II version of AMG's Giro turntable, which MT reviewed in December 2022. See Turntables. (Vol.37 No.10, Vol.40 No.10, Vol.45 No.12 WWW)

EMT 912: $6995 WITH FIXED WIRE & HEADSHELL, $7409 WITH DIN CONNECTOR
This banana-shaped 12" tonearm comes in two versions, one with a fixed headshell ("HI"), the other with a quick-coupling system that fits EMT's Tondose four-pin diamond pattern ("Professional"); there's a variant that fits Ortofon's square pin-mounting pattern. There is no provision for G-style Ortofon cartridges; only the shorter, 32mm A-style cartridges are compatible. A dial-operated magnetic antiskating mechanism allows the use of cartridges with a wide range of specifications, and there is a "beautifully machined" threaded ring for VTA adjustment. When HR set up the DIN-connected 912-HI with the EMT JSD 6 cartridge—see Phono Cartridges—on a Dr. Feickert Blackbird turntable, "every record sounded dramatically more exposed than I remembered it, clearer and punchier. So much changed that I found it was exciting and unsettling. It took a couple of weeks—trying different phono stages, cartridge loadings, and step-up transformers—to settle in comfortably with the new EMT sound." (Vol.46 No.11 WWW)

GRAHAM ENGINEERING PHANTOM ELITE: $17,500–$18,500 DEPENDING ON LENGTH ★
Outwardly similar to the standard Graham Phantom tonearm, the Phantom Elite is said to be made from more costly materials and incorporates new Litz wiring, a refined alignment gauge, and a thicker, more rigid version of the Phantom's removable, damped titanium armtube. (The latter is available in three sizes, for effective lengths of 9", 10", and 12".) Retained from the original Phantom is Graham's patented Magneglide system, in which magnets are used to stabilize the arm's inverted-unipivot bearing. MF observed that, when used with the TechDAS Air Force Two turntable, the Phantom Elite had good texture but not the same degree of weight as the more expensive Swedish Audio Technologies arm. Like Graham's standard Phantom, the Phantom Elite is available with a circular or an SME-style arm mount; MF suggests that the latter makes it easier to adjust spindle-to-pivot distance. (Vol.38 No.11, Vol.44 No.9 WWW)

J.SIKORA KV12 VTA: $8995
The oil-damped, unipivot KV12 VTA is the first tonearm to use an armtube made of Kevlar—"KV" stands for Kevlar—and features precision, on-the-fly VTA adjustment. MF noted that while the KV12's bass reproduction was clean and tight, it couldn't match the "prodigious-yet-honest bass" of the much-more-expensive SAT arm. MF concluded that while the KV12 hasn't got the Kuzma 4 Point's bottom-end "womp" and authority, its timbral balance and everything else about it produced nothing but sonic pleasure. (Vol.45 No.7 WWW)

KORF AUDIO TA-SF9: $2036 OR $2364
Two versions of this Austrian arm are available, the straight TA-SF9 with a fixed headshell ($2036) and the J-shaped TA-SF9R ($2364), which has a detachable H-4 bayonet-mount headshell. Either Korf arm can be supplied with an SME-style mounting plate with adjustable sliding base, or with what they call a JIS/Linn/Jelco round mounting base. MT used the SME-style plate to mount the TA-SF9R on his SME Model 30 turntable. With its extra-stiff steel armtube, the Korf's effective mass is a hefty 28gm, which MT thought might be marginal with his Zu Denon DL-103. However, he found that the Korf arm was extracting an unexpected level of performance from this cartridge. "Gone was the typical, slightly-soft-and-comforting Zu/DL-103 sound," he wrote, "replaced by something significantly more nimble and lighter on its feet." (Vol.46 No.12 WWW)

LINN EKOS SE: $5855 ★
Outwardly identical to the original Ekos in all but color, the Ekos SE is machined from a titanium tube in an effort to smooth out resonant peaks, while its stainless steel main pillar and bearing cradle work to maintain perfect bearing adjustment in the face of temperature extremes and user abuse. The "beautifully finished" SE comes packaged with a selection of tools, a Linn T-Kable interconnect, and a new iteration of Linn's cable clamp. With its strong, tight bass and solid aural images, the Ekos SE produced a "cleaner, more dramatic, and more enjoyable" listening experience, said AD. "Other, more exotic arms may give better results in some settings, but I cant think of a more consistent—and consistently recommendable—tonearm. It's a Martin D-28, a BMW 3-series, a bottle of Bombay Sapphire: It will please any sane, reasonable person," he summed up. (Vol.30 No.10 WWW; also see HR's Linn Klimax LP12 review in Vol.45 No.6 WWW)

SCHICK 12" TONEARM: $1995 ★
SCHICK 10.5" TONEARM: $1995
Made in Germany and now distributed in the United States by Mofi Distribution, the Thomas Schick 12" tonearm is intended to combine the greater-than-average length and mass of certain vintage models with the high-quality bearings of modern arms. It offers superb fit and finish, with a clean, spare bearing cradle and a smoothly solid pickup-head socket. Though lacking the spring-loaded downforce and other refinements of the EMT 997—and, thus, some measure of the more expensive arm's performance—the Schick is characterized by a big, clean, substantial sound, with an especially colorful bottom end: "a superb performer," per AD, who also verified the correctness of the Schick's geometry with Keith Howard's ArmGeometer freeware. According to Art, "The Schick tonearm is an outstanding value and easily the most accessible transcription-length arm on the market." Thomas Schick has now added to his line a proprietary headshell ($295) machined from resin-soaked "technical" graphite, with a mass (15.2gm) that makes it more suitable than most for use with cartridges of low to moderate compliance. AD bought the new headshell for himself and reported that, compared to his wooden Yamamoto headshell, the Schick offered "far tighter, cleaner bass." He was also impressed with how "cartridges mounted in the Schick suffer less breakup during heavily modulated passages." Now with balanced cable. Reporting on the 10.5" arm, HR wrote that after hearing Schick's arms in a variety of systems, he suspected that the medium-length version "might strike a good balance between the liveliness of the 9" and the greater mass and tracing accuracy of the 12" version." He found it to be a good partner for his Dr. Feickert Blackbird turntable. (12": Vol.33 Nos.3 & 6, Vol.34 No.10, Vol.37 No.11; 10.5": Vol.44 No.1, WWW)

SORANE SA-1.2: $1900 $$$ ★
The Japan-made Sorane (originally called Abis) SA-1.2 is a high-mass 9" tonearm that began life as the Abis SA-1, famous for impressing AD and for having been withdrawn from an earlier edition of "Recommended Components," by its importer, while undergoing revision. The new SA-1.2 reflects a number of refinements: improved bearings, greater effective length (9.4" vs 9"), and slightly higher offset angle. The arm's basics remain: a precision-milled armtube of rectangular cross section, static downforce, and a removable headshell for easy cartridge changes. When he used the revised SA-1.2—also an HR favorite—with the perennially recommendable Denon DL-103 cartridge, the low compliance of which is well suited to such a high-mass arm, AD found it capable of pulling from his records "tremendous amounts of touch and force and impact." The SA-1.2 was so good, he declared, that it made his Thorens TD 124 sound more like his Garrard 301. (This, he suggests, is good.) Speaking of which, AD cautions that, to make the Abis more compatible with the unusually low-slung platter of the TD 124, the user must make one or two adjustments. His conclusion: "I'd put the combination of Abis SA-1.2 and Denon DL-103 up against all but their priciest competitors." In his June 2023 Gramophone Dreams, HR commented that he used the arm's rear counterweight to set tracking force and the sliding midarm weight to adjust the SA-1.2's effective mass. "This nifty trick, in concert with the use of lighter or heavier headshells," he wrote, allows the SA-1.2 to adapt to a wide range of cartridge weights and compliances. "This adaptability, plus the satiny feel of its dual radial bearings, made the SA-1.2 my top choice for long-haul, daily driver use." (Vol.37 No.3, Vol.38 No.11, Vol.39 No.4, Vol.46 No.6 WWW)

TW-ACUSTIC 12" RAVEN: $6500
AH was impressed by the functionality of this German arm when he used it with TW-Acustic's Raven GT turntable. VTA is fine-tuned by turning a ring at the arm's base. VTF is dialed in by rotating the ingenious counterweight, held in place by the friction of unevenly spaced threads. Antiskating is set with a magnetic screw. The integral headshell rotates to allow azimuth adjustments. And the housing of the four-point gimbal bearing has a dimple at its center, to anchor the point of a cartridge protractor and eliminate guesswork from finding the arm's pivot point. Using a Dynavector Te Kaitora Rua cartridge, AH found that the Raven easily outclassed his Schick tonearm, sounding smoother, more harmonically developed, and propelling the music with a more natural sense of flow. (Vol.46 No.7 WWW)

VPI 12" FATBOY GIMBALED: $4500 ★
First reviewed by MF fitted to VPI's 40th Anniversary turntable, the gimbaled FatBoy was fitted to VPI's Avenger Direct turntable for KM's review. (A unipivot version is also available.) The armwand is 3D-printed from liquid resin set

into a UV- and heat-resistant stainless steel tube and is supplied with an adjustable, 5/8"-thick, aluminum armboard. Although VPI founder Harry Weisfeld believes the FatBoy arm sounds best with no antiskate, KM experienced skipping. He eliminated this by looping the plastic wire that extends from the tonearm base over a metal peg on the small, V-shaped antiskate mechanism attached to the back of the VTA tower. (Vol.43 No.1, Vol.46 No.6 WWW)

WAND MASTER LITE 12": $3750

Setting up this unipivot tonearm with its fat carbon-fiber armtube, 7/8" in diameter, on the Wand 14-4 turntable—see Turntables—was a heart-pumping challenge, wrote MT, echoing what AD wrote about an earlier version in May 2019. But as AD found, the result was worth the effort. "The Wand will extract the most from your cartridge," MT concluded, adding "Definitely recommended—as long as you understand what you're getting into." (Vol.47 No.1 WWW)

B

REGA RB330: $675 $$$ ★

Current version of Rega's classic tonearm. See the Rega Planar 3 Anniversary entry in Turntables. (Vol.40 No.2, Vol.46 No.11 WWW)

DELETIONS

AMG 12JT, Kuzma 4Point, Reed 5T, Schröder Captive Bearing (CB) tonearm, not reviewed in a long time.

PHONO CARTRIDGES

A

AIDAS AG-CU SERIES MALACHITE SILVER: $5850
AIDAS CU-SERIES DURAWOOD: $4595

These hand-built, low-output moving coil cartridges from Lithuania use the same basic generator, boron cantilever, AlNiCo5 magnet, and nude MicroLine stylus, but differ in the wire used to wind the coils and the material used for the cartridge body. The Durawood uses copper wire and a body made from multilayered wood; the Malachite uses silver-plated copper wire and a heavier, green, Tru-Stone body. The first thing that struck MT about the Durawood was how quietly this cartridge sat in the groove. "Minimal groove noise is usually a good indicator of a well-aligned stylus, sitting square and true in the groove," he wrote. On a track featuring John Coltrane playing soprano saxophone, the sound never devolved into screechiness: "It remained prominent but smooth." Art Davis plays a bowed solo on the same track, "which demonstrated just how embodied and rich the Durawood's bass can be when given the right material." With the Malachite Silver, MT found that the sound remained similar in overall tonal flavor but with a noticeable improvement in microdynamics and power. "Both of these cartridges are easy to like, with a smooth, refined sound and gobs of detail and precision," he concluded. "The Malachite Silver sounds similar to the Durawood but adds some dynamic impact and slam. ... If you can swing the additional $1255, the Malachite Silver is a clear step up." (Vol.47 No.2 WWW)

ANALOG RELAX EX1000: $19,900

The top-of-the-line cartridge from Japanese company ZOOT Communication has a higher output voltage and a higher output impedance than typical moving coils. Nevertheless, not only did MF find that the Audio Relax was a superb tracker, but he also wrote that "Velvet Fog" Mel Tormé had never been better served on record than through the EX1000: "The sonically sensual vocal presentation oozes 'velvet' without sounding at all soft, warm, or muffled, nor does it sacrifice transient articulation. This cartridge gets more of that correct than any other cartridge I've heard." (Vol.44 No.12 WWW)

DS AUDIO DS-W3: $15,000 (INCLUDES OPTICAL EQUALIZER)

See Michael Trei's Spin Doctor column in this issue. (Vol.47 No.4)

DYNAVECTOR TE KAITORA RUA: $3650

AH described this low-output MC as "a superbly transparent transducer with a lovely extended top end, gobs of detail, outstanding speed and separation, and a huge, billowy soundstage ... The Kaitora had a way of making every record—whether Brian Eno or Schubert or Godspeed You! Black Emperor—sound really good, and of cutting straight to its musical essence." He described it as "more rhythmically propulsive" than the Miyajima Shilabe with which he compared it. (Vol.46 No.7 WWW)

EMT JSD NOVEL TITAN MC: $6995

This high-output (1mV at 5cm/s), low-compliance MC cartridge features silver coils and a diamond-plated titanium body, and has a relatively high 16 ohm internal impedance. MF noted the generous low-frequency transient textures combined with smoothness, refinement, good timbral balance, and commendable transparency. (Vol.45 No.5 WWW)

GRADO LABS LINEAGE SERIES AEON3: $6000

This low-output (1mV) cartridge is housed in a broad cocobolo-wood body that, according to John Grado, allows more of the cartridge's 12gm mass to be balanced around the stylus point, stabilizing the motions of the cantilever. HR was surprised that when the Aeon3 was mounted on the J.Sikora Initial turntable, it out-Koetsu-ed the psychedelic Koetsu Rosewood Signature. "The Koetsu sounded slightly brighter, punchier, and sprightlier—but not more full-power dynamic than the Aeon3," he wrote, though he felt that the Grado was less corporeal than the Koetsu in the upper registers. After comparing the Aeon3 with other cartridges, both on the Initial and on the Dr. Feickert Blackbird turntable, HR decided that the Grado appeared to be "uncovering new, previously buried deposits of recorded microdata. That trait alone is making LPs extra-engaging and more pleasurable," he concluded. (Vol.43 No.6 WWW)

HANA UMAMI RED: $3950

The Umami Red features a gloss-red Urushi-lacquered Duralumin body with an ebony wood inlay. Stylus is a nude Mi-

croLine diamond mounted on a boron cantilever. High-purity copper coils are wrapped on a square permalloy armature centered in a magnetic circuit that combines a samarium/cobalt magnet and an iron pole piece. Loaded with 80 ohms, this low-output moving coil impressed HR with the *intensity* with which it endowed familiar recordings, as well as the enhanced intelligibility of vocals, "natural-feeling contrast levels, grain-free clarity, and lifelike solidity." The Umami Red displayed sharper, more precisely focused images than the much less expensive Hana ML, he decided. (Vol.44 No.4 WWW)

HANIWA HCTR-CO MARKII: $10,000 ★

The original version of this moving coil cartridge tracked everything cleanly at 1.2gm downforce, found MF. Used with the HCVC01 passive current-to-voltage converter (see "Phono Preamplifiers"), its presentation was on the cool side, though MF noted that "warm records did not lose their warmth altogether. The bottom end on everything I played, while not as prominent and rich-sounding as I've heard it, was taut, well-defined, and all there." He described the combination's presentation as "superfast, clean, transparent, and transient-precise" with excellent rhythm'n'pacing. Since that review was published, Haniwa's Dr. Kubo came up with what he considered significant improvements that included higher compliance and a new damper. He felt that anyone who'd already spent $10,000 on the cartridge deserved the upgrade free of charge. Compared with the original, the CO Mk.II "delivered a texturally and timbrally enriched sonic performance and overall greater transient finesse and delicacy," MF found. He concluded that when used with the HCVC01, the CO Mk.II offered "absolutely honest spectral balance and remarkable imaging solidity and stability, combined with "textural delicacy." (Vol.42 No.10, Vol.43 No.7 WWW, original version; Vol.44 No.6 WWW)

HIFICTION X-QUISITE ST: $13,160

The high-mass, low-output X-quisite features a unique, patented "monobloc" transducer element consisting of a one-piece, high-strength ceramic cantilever and a square coil body that eliminates the joint almost always found in cartridges using aluminum, boron, sapphire, or diamond cantilevers. The stylus is an "X-diamond" MicroRidge, the armature is wound with silver wire, and the ST's body is made from layers of titanium, aluminum, and wood. The manufacturer recommends loading the cartridge at 400–800 ohms and setting the tracking force between 1.9gm and 2.1gm. Despite the usual low-frequency resonances having a higher Q than usual when the ST was mounted in a Kuzma 4Point arm—or maybe because of it—MF found that the X-quisite was the fastest, most direct and flat-out exciting-sounding cartridge he'd heard, with among the most natural, open, silky-smooth upper octaves. "Its sound was free of artificial ingredients—no hyperdefined edges or peaky, tipped-up top end to produce fake excitement; no resonant tricks that create 'sensuous warmth' not found in actual music." MF bought the review sample but the sound continued to change, finally settling in with a "shelved" quality in the upper octaves that worked for some recordings but not others. "The easily noticed character was disconcerting," he wrote, but was minimized when he used the X-quisite with the matching SUT X-20 step-up transformer. (See "Phono Preamplifiers.") (Vol.44 Nos.3 & 9 WWW)

KOETSU ROSEWOOD SIGNATURE PLATINUM: $8495★

Designed by Fumihiko Sugano, son of Koetsu founder Yoshiaki Sugano, the Koetsu Rosewood Signature Platinum exhibits moderately low output (0.3mV), moderately low resistance (5 ohms), expects a downforce of 1.8–2.0gm, and is priced more or less in the very middle of Koetsu's product line. Of his time with the Rosewood Signature Platinum, HR wrote that "this Koetsu, with its lacquered rosewood body, silver-plated copper coils, quadrahedral stylus profile, boron cantilever, and platinum magnet, gave me a sixth-row seat for [a] long-cherished recording." When Herb loaded it with 100 ohms, "the result was an exceedingly rich and unaffected sound," and the Koetsu "seemed engineered to do nothing but hold my attention—my pleasurable fascination—as it showed me the art behind the music." Later comparing the Koetsu with a budget Audio-Technica moving magnet, HR wrote that he heard sublime ease and dramatic understatement: "Immediately, I grasped how unsubtle the VM95C was. I also received what felt like infinite amounts of micro-level information." However, although he felt that he didn't get closer to the living performers, as he had with the cheap cartridge, the Koetsu "did what it was designed to do: transform the quotidian into the marvelous." (Vol.41 No.12, Vol.44 No.1 WWW)

LINN EKSTATIK: $7295

Low-output moving coil. See Linn Klimax LP12 in Turntables. (Vol.45 No.6 WWW)

LUXMAN LMC-5: $2695

This low-output, aluminum-bodied MC cartridge uses a Shibata stylus and a samarium/cobalt-energized motor. Recommended downforce is 2.2gm and the specified dynamic compliance of 8×10^{-6}cm/dyne means that the LMC-5 will work best with a tonearm of reasonably high mass. With the Luxman mounted in a Kuzma 4Point tonearm, KM noted that he was impressed by the rich tone and "pure, detailed, hugely illustrative sound ... right out of the box." Break-in made it better, he found: "Lovely clarity and openness in the upper midrange and treble resulted in textural shading, touch, and illumination of inner detail." KM felt that the LMC-5 "produced fewer thrills" than Pure Fidelity's Stratos when mounted in an Encounter Live tonearm on the Pure Fidelity Harmony turntable. AH used the LMC-5 for his review of Luxman's PD-151 Mark 2 turntable (see Turntables) and commented that the LMC-5 provided a richer sound and more relaxed presentation than the Ortofon Cadenza Blue. (Vol.45 Nos.8 & 12, Vol.46 No.3 WWW)

MIYAJIMA SHILABE: $3150 ★

The Shilabe is a low-output (0.23mV), low-compliance design with an unusually high recommended tracking force of 2.5–3.2gm. Its Shibata stylus is attached to a large-diameter, old-fashioned–looking cantilever. The Shilabe uses a patented "cross-ring" construction that centers the

The Goddess of Beauty,
Passion, and Pleasure Inspires
APHRODITE

Alta Audio presents, Aphrodite, a four-way floor-standing speaker that is the culmination of a long history focused on creating the most memorable stereo and multichannel listening environments.

"There comes a time in every reviewer's mind – do I like this enough to make it permanent in my system? The bass response, the level of detail, and resolution through the midrange in the [Alta Audio] Adams to me say yes."

—**PIERO GABUCCI,** Secrets of Home Theater and High Fidelity

"Center imaging is strong, and they throw a large, lush soundstage that extends both vertically and horizontally beyond the speaker position."

—**DR. STEVEN GOLD,** East Stroudsberg, PA (Alta Audio customer)

For further information, visit **altaspeakers.com**.
For dealer inquiries, contact Nexus Audio Technologies at +1-781-775-5650.

Alta Audio™

generator's fulcrum within the coil. The Shilabe had a sound that was "full-bodied, deep, and extremely well-defined" and offered "superbly coherent transient and harmonic presentation from top to bottom," MF wrote. AD also enjoyed the Shilabe's "consistently present, colorful, and downright chunky" sound. "It was the closest I've heard a stereo cartridge come to delivering the meat, the force, the sheer solidity of mono," he said. "After spending several weeks listening to the Shilabe, I had to admit that its tonal density, harmonic richness, and vivid textures made my beloved [Dynaudio Te Kaitora Rua], and frankly most other moving coils, sound a bit flat, bright, and electronic," AH added later. "The Shilabe ... played records with much of the body and presence of my favorite old-school conical-stylus cartridges like the [Ortofon SPU Classic G] but added scads more detail, extension, and refinement." (Vol.32 No.9, Vol.33 No.10, Vol.46 No.7 WWW)

MY SONIC LAB ULTRA EMINENT EX: $6995 ★

Notably, the titanium-bodied Ultra Eminent Ex moving coil cartridge mates an output level that's only moderately low (0.3mV) with an exceptionally low internal resistance (0.6 ohm). It does so thanks to the discovery by its maker, Yoshio Matsudaira, of a new magnetic material that allowed him to use fewer turns of coil wire—yielding lower moving mass, and the potential for greater detail retrieval—while maintaining a healthy output level. Recommended tracking force is 2gm. As HR wrote, "what struck me was how much the Ultra Eminent Ex's presentation sounded like analog tape," adding that the cartridge "excavated so much microlevel information that it seemed to reach some perceptual limit where recorded detail . . . begins to materialize into the person, instrument, or environment the information represents," and in doing so sounded "less mechanical than any other MC I've experienced." Part of HR's reviewing kit. (Vol.41 No.12 WWW)

ORTOFON MC WINDFELD TI: $5999 ★

Derived from the first Windfeld model—which was designed by Ortofon's head of R&D, Leif Johannsen, and named for his predecessor in that position, Per Windfeld—the new Windfeld Ti MC cartridge differs from the original in its use of a titanium body core that flares at the top to form its mounting platform, which is drilled and tapped for cartridge bolts of the usual sort. (The Windfeld Ti's outer body is made of stainless steel.) The Ti's armature is also less magnetic than the first Windfeld's: a windfall (sorry) of the new cartridge's more sophisticated magnet structure. Other pertinent specs include an output of 0.2mV, an internal impedance of 7 ohms, and a specially polished, nude Replicant 100 stylus tip. According to MF, the Windfeld Ti, with which he used a vertical tracking force of 2.3gm, "retained all of the sweetness and lushness of the original Windfeld." He added that "no one will be disappointed by the Windfeld Ti's reproduction of space." Mikey's conclusion: "[$5459] buys you a piece of the highest echelon of cartridge performance for thousands fewer bucks." In use by JCA. (Vol.40 No.8)

ORTOFON MC XPRESSION: $6199 ★

A unique blend of new and old technologies, the Xpression derives from Ortofon's cutting-edge MC A90, but is designed as a drop-in replacement for any G-style pickup head. It uses a Replicant 100 stylus, has a recommended downforce of 2.6gm, an impedance of 4 ohms, and a low (0.3mV) output. Compared to AD's original Ortofon SPU, the Xpression sounded just as solid, colorful, and forceful, but was more detailed, open, tactile, and revealing of nuance and technique. "The difference was real: Love my older Ortofon though I do, the Xpression was clearly more dramatic, with no penalty in texture or color," said Art. Not long after AD's review, JCA tried an Xpression with his combination of vintage Thorens TD 124 turntable and Schick 12" tonearm; for various reasons—at the time he felt it "cost way too much for what it was"—he set it aside, returning to it only recently. Improvements, in the interim, to his system and a better listening room left JCA "better prepared to hear and describe" the Xpression, which he now believes is "clearly and significantly better" than his own Ortofon 90th Anniversary SPU, with "less SPU-ish coloration" and "none of the attenuation of high frequencies that I [hear] from classic SPUs, but no extra tizz, either." Part of JCA's kit. (Vol.35 No.2, Vol.41 No.9 WWW)

ORTOFON VERISMO: $6999

Housed in a titanium body produced by Selective Laser Melting, the low-output Verismo moving coil features a diamond cantilever to which is attached a Swiss-manufactured Replicant 100 line-contact stylus shaped to resemble a cutting stylus as closely as possible. MF found the Verismo's sound "fast," with sharp, finely drawn high-frequency transients yet with a lush and generous midrange and a tight, nimble, well-controlled bottom end—"knit together into a coherent sonic package." He found that the Verismo "deftly places well-focused, three-dimensional images in a natural-sounding space." (Vol.45 No.1 WWW)

PHASEMATION PP-2000: $7999

This Japanese manufacturer's top-of-the-line, low-output moving coil cartridge features an Ogura line-contact stylus mounted on a boron cantilever. The Duralumin body is attached to a stainless steel mounting base, both finished with a diamond-like carbon coating. MF wrote that "Even before break-in, the PP-2000 produced an expansive soundstage and a smooth spectral balance that was free of obvious defects or easy-to-hear limitations. ... Instrumental attack was not overly sharp, but neither was it soft." MF found that electric bass sounded slightly soft, but the Phasemation did everything well enough to make it an easy and enthusiastic recommendation for classical and jazz lovers. Rock fans, he warned, are probably best off with a different cartridge. (Vol.44 No.2 WWW)

B

AIDAS AUDIO GALA GOLD LE: $5000

This "midline" cartridge features coils wound with 99.5% pure gold wire. A Namiki MicroRidge stylus is attached to an "Adamant boron composite" cantilever. Recommended VTF is 1.9–2.1gm, and the suggested loading range is 100–1000 ohms. MF described the Aidas cartridge's timbral balance as "neutral, particularly in the midbass and midrange, and well-extended from bottom to top with a subtle, slightly warm sonic signature (no lumps and/or bumps)." "It did everything well and nothing poorly," he decided, noting that if rock is your main music, you might want something with a slightly harder edge. (Vol.44 No.1 WWW)

BENZ MICRO SLR GULLWING: $3930

MT used this cartridge for his favorable review of the AMG Giro MK II record player—see Turntables—noting that its highish 40 ohm source impedance was too high for his Sutherland Loco phono preamplifier's current-drive input. HR wrote that this "fragile little beast that's been around for a while, but it can reproduce recorded textures with an overtly tactile, right-there-in-front-of-me intensity that most other cartridges can't match." The Gullwing does need to be loaded with a relatively high impedance. HR again: "With a 550 ohms load, the Benz Micro delivered an exceedingly smooth and precise response that wasn't just pretty and flat; it excelled at presenting the vigorous drive, lifelike tones, and extra-dense, in-my-room presence I crave from the best-engineered 1950s mono discs." (Vol.45 No.12, Vol.46 No.9 WWW)

DS AUDIO DS003: $2500 PLUS PRICE OF EQUALIZER ($3500)

This "optical" cartridge operates by projecting light from an LED onto a tiny "shading plate" mounted at the center of the cantilever. As the stylus moves through the record grooves, the cantilever and shading plate move and varying amounts of light reach the photodetector, which generates an electric current in proportion to the amount of light it receives. All optical cartridges need to be used with an energizer; HR started his auditioning with the $1500 E1 energizer, then upped his game with the 003 energizer ($3500). With the E1, HR felt that the DS003 was quieter and more 3D-lucid than the DS-E1 cartridge with the same energizer. (MF reviewed the DS-E1 in Vol.44 No.2.) However, when HR connected the 003, he realized that the E1 sounded dry and slightly gray. HR concluded that the DS003 and the more expensive energizer "specialized in producing a vivid clarity framed in a beguiling chiaroscuro" coupled with "super-silky silences" and "taut, tuneful, textured bass." (Vol.44 No.11 WWW)

DS AUDIO DS-E1 OPTICAL CARTRIDGE AND EQUALIZER: $2750

MF was not a fan of the original DS Audio optical cartridge, but he was impressed by this version. An elliptical stylus is attached to an aluminum cantilever, and the DS-E1 tracks between 1.6gm and 1.8gm. MF wrote that the earlier version's "plasticky sound" was completely gone, and the low-frequency balance was "in the pocket"—not at all overemphasized. He added that even with its elliptical stylus, this optical cartridge was fast and remarkably transparent. The price includes the necessary equalizer module. (Vol.44 No.2 WWW)

DYLP AUDIO NATURE RUBY-1 MC FG II: $1200

The review sample of this MC cartridge comes fitted with a Swiss-made Gyger FG II elliptical stylus mounted on a ruby cantilever. MF found that the Ruby 1 MC tracked the Ortofon test record's 70µm band without distortion, which he felt was acceptable trackability. He concluded that the combination of a stiff ruby cantilever, a Gyger stylus, and a wood body produced an attractive combination of warmth, detail, and speed. Images were nicely focused and the cartridge's "satisfying attack and generous sustain and decay produced the kind of sonics that can keep you listening for hours." (Vol.45 No.4 WWW).

DYNAVECTOR DV-20X2L: $1250 ★ **$$$**

HR's search for a phono cartridge that would "dance on the roadhouse bar or burn rubber in the parking lot" led him to the Dynavector DV-20X2L, a low-output (0.3mV; a higher-output version, the DV-20X2H, is available), medium-high-compliance moving coil cartridge with a MicroRidge stylus. Says Herb, "I loved it right away—the DV-20X2L was everything the [Ortofon] 2M Black was not: fast, clear as water, and expressive." His conclusion: "[I]t became my new budget reference phono cartridge." Seven years later, HR returned to the DV-20X2, commenting that it plays the way he likes phono cartridges to play: "clear, fast, and insightfully. It's got enough mojo-vivo to make high-energy recordings with sword-sharp transients sound gunshot explosive and utterly relaxed at the same time." (Vol.39 No.6, Vol.46 No.3 WWW)

DYNAVECTOR XX-2 MKII: $2150

HR noted that at $2150, the XX-2 MKII low-output MC is probably the "sweet spot" in Dynavector's cartridge lineup. It's the lowest-priced Dynavector that uses a solid boron cantilever, tipped with a Pathfinder line-contact stylus. HR characterized Dynavector's house sound as "Formula 1–fast with sticks-to-the-track handling, bright-eyed awake and superlucid, especially through the top octaves." He wrote that the XX-2's lively, easy-flowing free-spiritedness made him want to play records: "At the end of every side, I needed another." Used with the Sutherland SUTZ headamp (with a shunt resistor load) and a Tavish Adagio phono preamp, HR's perception that the XX-2 had a top-octaves emphasis was converted into a balanced, harmonically rich, quiet and smooth, 10-octave musical expanse: "Sparkle was retained, but glare was banished" (Vol.46 No.3 WWW)

EMT JSD 6: $3195

This low-output, aluminum-bodied MC cartridge uses a boron cantilever and a high-polish Super Fine Line (SFL) stylus. Weight is 10gm, compliance is a low12µm/mN, source impedance is 24 ohms, output voltage is 1.05mV at 5cm/s, and recommended tracking force is 2.4gm. HR used the JSD 6 in EMT's 912-HI tonearm (see Tonearms) fitted to a Dr. Feickert Blackbird turntable (see Turntables) and noted a relaxed and naturally toned sound. "The more hours I put on it, the more it relaxed, opened up, and gained color," he noted. HR concluded that "the EMT 912-HI arm and JSD 6 cartridge made every music genre seem like my latest favorite discovery, and that's exactly the trait I'm looking for when auditioning source components." (Vol.46 No.11 WWW)

GOLDRING E3: $189 $$$

Goldring's budget E series—"designed in the UK, made in Japan"—consists of three versions: the conical-tipped, carbon-cantilevered E1 ($100), the conical-tipped, aluminum-cantilevered E2 ($129), and the elliptical-tipped,

aluminum-cantilevered E3 ($169). When HR auditioned the E3, he commented that "It brought out every note with a precision I never imagined a moving magnet could muster." He added that the E3 "played [music] with much of the realism and complexity it does with a Koetsu" and noted the cartridge's superb PRaT (pace, rhythm, and timing). (Vol.44 No.1 WWW)

GOLDRING EROICA HX: $899

This high-output moving coil design weighs 5.5gm and uses a nude Gyger II stylus and 256 turns of fine enameled-copper wire wound over Goldring's signature iron-cross armature. Comparing it with Grado's Platinum3, HR noted how much brighter and more sharply focused the Eroica HX played, setting instruments farther back on the stage. He found the Goldring more detailed and sharply focused than the Ortofon 2M Black and concluded that the Eroica HX "generated its excitement via clarity, resolve, and balance." (Vol.45 No.12 WWW)

GOLDRING ETHOS: $1599

See Herb Reichert's Gramophone Dreams column in this issue. (Vol.47 No.4)

GRADO LABS PLATINUM3 LOW: $400 $$$

HR described this wood-bodied, low-compliance, moving iron cartridge, which weighs 9gm and is fitted with an elliptical stylus, as "a poor man's Koetsu," because it produces lush, spacious, color-saturated sound. Compared with Grado's more expensive and controlled-sounding Aeon3, however, the Platinum3's response sounded "slightly tipped up at the frequency extremes." Even so, HR wrote that it reproduced opera and early classical music with "ease, elegance, and dramatic subtlety." He concluded that "if your taste in music runs toward acoustic jazz, ambient, or classical, the Platinum3 could save you from spending $4000 on a fancy-pants MC. It's that good." (Vol.45 No.12 WWW)

GRADO LABS PLATINUM3 HIGH: $400 $$$

HR called the Grado Labs Platinum3 low-output moving iron cartridge—see above—"a poor man's Koetsu" because it produced so much "lush, spacious, color-saturated sound," and wondered if he'd lose any of that beauty or lushness using the 4mV high-output version. He found that he didn't lose anything, and when he compared it with the Denon DL-103, he found the Grado the quieter, more transparent transducer. "The Platinum3 made all forms of orchestral music seem splendorous and showcased the 21st century virtues of remastered, reissued LPs," he concluded. (Vol.46 No.9 WWW)

HANA EL MC: $475 $$$ ★

Commissioned by Sibatech Inc. and manufactured by Excel Sound, both of Japan, the Hana EL is a low-output (0.5mV) moving coil cartridge built with alnico magnets and fitted with an aluminum cantilever and elliptical stylus. (A higher-output version, the Hana EH, is available for the same price but has not yet been tested.) Compliance is medium to medium-low—and thus well suited to the SME M2-9 tonearm used by HR, who declared that "the EL's basic sonic character was highly musical and exceptionally nonmechanical." He's still using it. (Vol.39 No.8 WWW)

HANA ML MC: $1200 $$$

Forget that the new Hana ML is the costliest Hana so far: This low-output (0.4mV) moving coil cartridge is nevertheless priced lower than the perfectionist-audio average. The Hana ML boasts a Delrin body topped with a brass cap, the latter with threaded inserts for the mounting bolts; an aluminum pipe cantilever; an alnico magnet; and a nude Microline stylus. Specs include a lowish compliance, a weight of 9.5gm, and an impedance of 8 ohms. HR heard from the ML a tendency to smooth out those natural textures that more expensive cartridges are paid to excavate, but it was also capable of letting music sound "brilliant and conspicuously in the room." HR loved the Hana's "beguiling, tubelike sound," but he noted that it "could not out-rock or out-reggae the Zu/Denon [DL-103]." His conclusion: "a stunning-sounding, artfully engineered phono invention that loves all music, and a fantastic bargain." Part of KM's reviewing kit. (Vol.42 No.8 WWW)

HANA SL: $750 $$$ ★

HR wrote about the Hana SL almost immediately after reviewing a slew of $5000+ cartridges and observed that switching to the $750 Hana "did not feel like a depressing step down." At the business end of the Hana's aluminum cantilever is a Shibata stylus—cause, HR says, for the user to give "more-than-usual care" to cartridge alignment and downforce and antiskating settings—and deep in the Hana SL's plastic-bodied heart is an alnico magnet, to which Herb attributes the cartridge's timbral realism and ability to make "singers and instruments sound denser and more real." Pertinent specs include a low (0.5mV) output, a recommended downforce of 2gm, and a recommended load impedance of over 200 ohms. Like its stablemate, the Hana SL Mono, this moving coil cartridge impressed Herb with its "naturally supple viscosity and glowing vivid tone." (Vol.41 No.10 WWW)

HANA SL MONO: $750 $$$ ★

Like the standard Hana SL, the Hana SL Mono is a low-output (0.5mV), highish-impedance (30 ohms) moving coil cartridge with an alnico magnet, an aluminum cantilever, and a nude Shibata stylus. That last bit surprised HR, most of whose favorite mono pickups have spherical styli—yet during an afternoon of playing 45s, he was won over by the SL Mono's "unprecedented ability to hear everything that had never before been exposed by my spherical-tipped cartridges. Single after single, the Hana SL Mono made sound that was decidedly present, punchy, finely detailed, and liquid." Unlike cartridges regarded by purists as true mono pickups—such as EMT's discontinued OFD models–the Hana SL Mono does exhibit vertical compliance, and the output signal appears on both its pairs of output pins. (Vol.41 No.10 WWW)

MIYAJIMA KOTETU MONO: $655

The Kotetu is a low-output moving coil cartridge with internal impedance of just 4 ohms. It's a true, dedicated mono cartridge that's impervious to the stylus's vertical movement. MT found that this significantly reduced groove noise with his mono LPs; he was astonished by how quiet the surfaces sounded. He was also astonished by the Kotetu's ability to play music with focus and clarity, concluding that "if you have a significant collection of mono records, this is something you need to check out." (Vol.46 No.6 WWW)

ORTOFON 2M BLACK LVB 250: $1099

Compared with the basic 2M Black, the LVB uses the low-mass boron cantilever/nude Shibata assembly found on Ortofon's Cadenza Black. The new rubber suspension compound is based on a multiwall carbon nanotube nano filler compound for which Ortofon claims "desirable mechanical properties" as well as greater environmentally friendly production characteristics. Used with the SME Model 6 (see "Turntables"), the 2M Black LVB "sounded detailed, open, and extended on top," wrote MF. (Vol.44 Nos.5 & 9 WWW)

ORTOFON CADENZA BLACK: $3359

Playing a 1997 test pressing of Ahmad Jamal's *Alhambra*, MF found that, with the Cadenza Black, SME's Model 6 turntable "exploded to life." It offered "drum slam, transparency, and bass finesse." (Vol.44 No.5 WWW)

ORTOFON CADENZA BRONZE: $2689

This low-output moving coil is the second from the top in Ortofon's Cadenza series. It features a stainless steel and aluminum body, an output of 0.4mV, and a lowish compliance of 12µm/mN. The tapered conical aluminum cantilever terminates in a nude Replicant stylus. AH was intrigued by the fact that the Bronze has a deliberately "flavored" tuning. According to Ortofon, the Bronze is claimed to offer "a touch of 'romance and "warmth." AH noted that the Cadenza Bronze's "warm" tuning "proved admirably subtle, lending recordings body and presence while dialing down sizzle and hi-fi artifacts like 'air.'" He was never aware of missing deleted highs or finding the bass overripe. To AH, the Ortofon simply sounded more natural than many moving coil cartridges and bested every cartridge he'd heard in one important respect: its ability to reject surface noise. (Vol.47 No.3 WWW)

PURE FIDELITY STRATOS: $1995

KM used this duralumin-bodied MC cartridge for his review of Pure Fidelity's Harmony turntable—see "Turntables." It looks like a rebranded Hana, but Pure Fidelity says that the Stratos is built to their specifications by Goldnote in Italy, using a cantilever and stylus sourced from a Japanese company. KM felt that the EMT TSD15 N cartridge provided more weight in bass lines than he heard with the Stratos, though the Stratos produced more thrills than the Luxman LMC-5 cartridge. (Vol.45 No.12 WWW)

SCULPTURE A.3L: $1955

Based on the venerable Denon DL-103 moving coil but "heavily modified," this French cartridge features a body of vaporized and impregnated wood and a nude, line-contact III stylus attached to a boron cantilever. MF found that the Sculpture cartridge, used with the Sculpture A SUT (see "Phono Preamplifiers"), was "magic" on a Bill Henderson LP, commenting that with fairly dry, closely miked recordings with acoustic instruments, the listenability was off the charts. But he cautioned that with other kinds of recordings—hard rock and especially ambience-rich, distantly miked ones—the cartridge had a "wet kiss from your least favorite aunt" quality that, while still magically liquid, artifact-free, and you-are-there enticing, could swallow detail and transient information in a sea of warmth and atmosphere that was not, strictly speaking, on the record. HR agreed. (Vol.44 Nos.5 & 11 WWW)

SUMIKO SONGBIRD: $899, HIGH OR LOW OUTPUT

With its aluminum cantilever and elliptical stylus, the high-output Songbird moving magnet reminded HR of Sumiko's famously high-value Blue Point that *Stereophile* favorably reviewed in 1993. "In lower-priced cartridges, I look for accurate tone and some type of natural vitality. Which is exactly what the mildly broken-in Songbird exhibited," wrote HR, concluding that the Songbird, "with its sweet tone and subtle textures, is cut from the same sonic cloth as its Reference series sibling, the Starling." (Vol.44 No.7 WWW)

SUMIKO STARLING: $1799 (LOW OUTPUT)

Sumiko's newest high-compliance (12×10^{-6} cm/dyne), low-output (0.5mV) moving coil is specified as having a 28 ohm internal impedance. It weighs 9.5gm and has a boron cantilever fitted with a MicroRidge stylus. Loaded at 200 ohms, the Starling's sound was sweet and smooth. "Less obviously, it showed a quiet, grainless, highly spatial character that made it feel luxurious," wrote HR, adding that "in *my* room, through *my* system, the Sumiko Starling played my records with a dark, nanodetailed refinement that elucidated whatever sophistications the recordings and the music had to offer." (Vol.44 No.7 WWW)

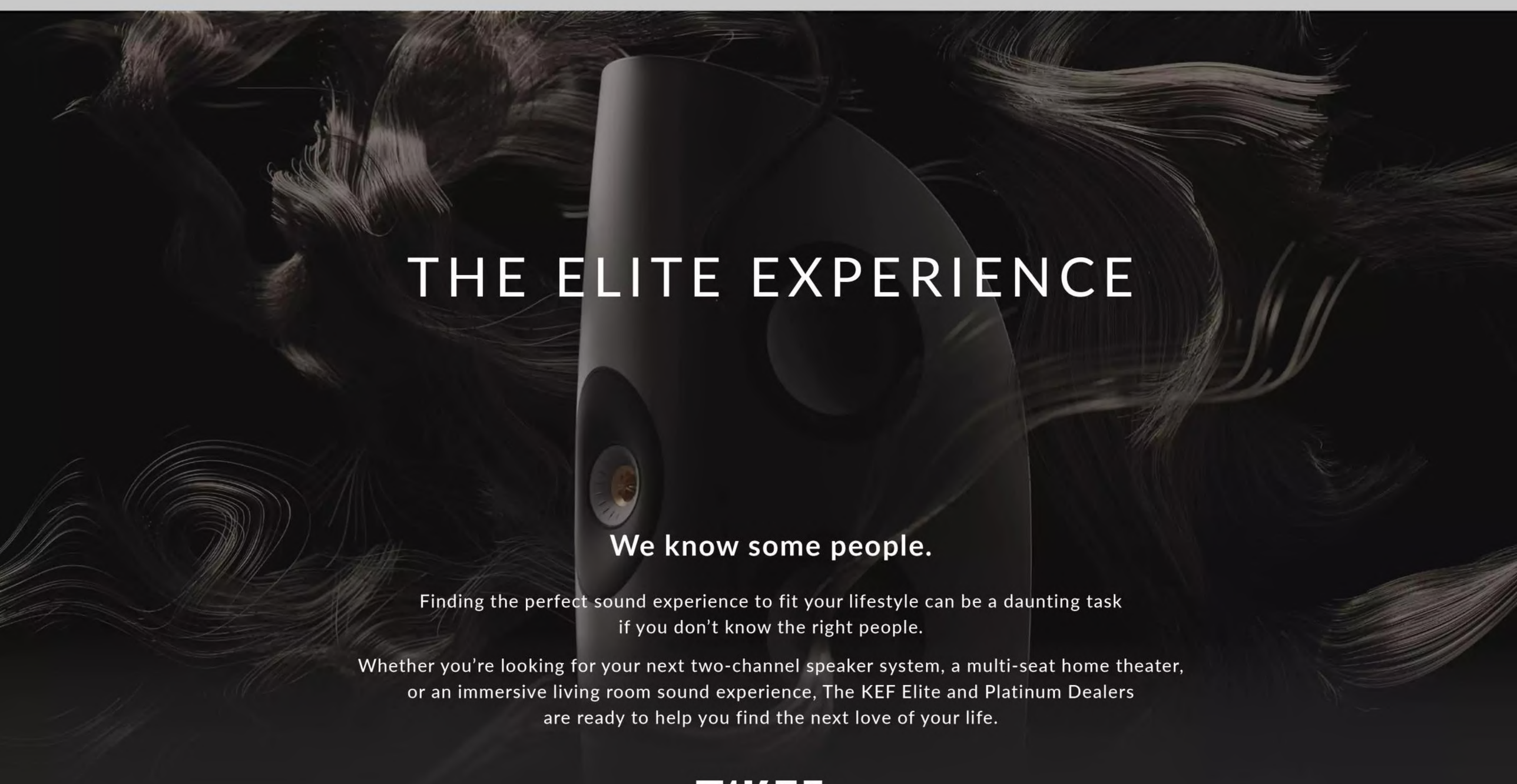
SUMIKO WELLFLEET: $449

MF noted that this affordable MM cartridge's most attractive qualities were "see-through transparency, transient clarity, and precision in the mid and upper frequencies" and found the sound "completely free of edgy artifacts, grain, and grit." (Vol.45 No.8 WWW)

ZU/DENON DL-103 MK.II REV B: $791–$1319 ★

The Zu/DL-103 Mk.II cartridge replaced the original Zu Audio DL-103 (see Stereophile's October 2007 issue), itself the first modification of the classic Denon DL-103 to achieve widespread recognition and commercial success. For the Mk.II version, the basic formula remains—Zu strips away the Denon's plastic housing and repackages its motor and output-pin block in a precision-machined aluminum body—but here the body has been reshaped to make better contact with the motor and better resist the buildup of sound-sullying resonances. Also new are an improved epoxy for holding the motor in place and a body shape that permits the use of the Denon cartridge's original stylus guard. The Zu DL-103 Mk.II is available in three versions, the differences between them determined by the tolerances Zu observes while hand-selecting stock Denon cartridges: Grade 1 ($791), Grade 2 ($959), and Grade 2 Prime ($1319). AD, who regarded the original Zu Audio/Denon DL-103 as a giant-slayer of Homeric proportions, thought the Grade 2 Premium Zu DL-103 Mk.II went even further, offering fine musical timing and "an ocean of tone." Compared with the original Mk.II, the Rev B generator was moved slightly farther forward in the body and a notch was added above the stylus position to make cueing easier. MT auditioned the Grade 2 Rev B, noting that with the cartridge mounted in the Korf tonearm (see Tonearms), "gone was the typical, slightly-soft-and-comforting Zu/DL-103 sound, replaced by something significantly more nimble and lighter on its feet." (Vol.41 No.4 WWW, Vol.46 No.12 WWW)

KEF Listen and believe



THE ELITE EXPERIENCE

We know some people.

Finding the perfect sound experience to fit your lifestyle can be a daunting task if you don't know the right people.

Whether you're looking for your next two-channel speaker system, a multi-seat home theater, or an immersive living room sound experience, The KEF Elite and Platinum Dealers are ready to help you find the next love of your life.

KEF

Elite Dealers

AVIQ
Huntsville, AL
256-712-8912

Mythic Home Theater
Scottsdale, AZ
602-329-4252

Gramophone
Timonium, MD
410-308-1650

Stereo Stereo
Warrendale, PA
724-719-2330

Origin HiFi
Austin, TX
737-787-4434

Dynamic Sound Systems
Carlsbad, CA
760-438-3773

Modus AV
Suwanee, GA
404-471-3779

The Audio Hunters
Simpsonville, MD
301-848-4100

Just Audio
Middle River, MD
410-882-4360

Audio Advice
Raleigh, NC
919-881-2005

Hippo's HiFi
Albany, NY
518-482-1864

IQ Home Entertainment
Fairfax, VA
703-218-9855

Soundings Fine AV
Greenwood Village, CO
303-759-5505

Luminaire Smart Homes
Boise, ID
208-781-8301

Gramophone
Columbia, MD
410-381-2100

Waara Technologies
Traverse City, MI
231-935-4511

Rein's AV Therapy
Nashua, NH
603-888-9777

Echo Audio
Portland, OR
503-223-2292

Olson's Hi-Fi
Lynnwood, WA
206-462-5227

Wave Media Systems
Winter Garden, FL
407-909-3388

Holm Audio
Woodridge, IL
630-663-1298

Gramophone
Gaithersburg, MD
301-296-6202

Audio Advice
Pineville, NC
704-821-4510

Electronics Expo
Wayne, NJ
973-785-1112

Quest for Sound
Bensalem, PA
215-953-9099

Sound World
Appleton, WI
920-733-8539

Platinum Dealers

C & M Sales
Palmdale, CA
661-965-3469

SmarTek Home
San Diego, CA
858-874-8700

Boca Theater & Automation
Boca Raton, FL
561-999-9024

Tech Savvy
Bonita Springs, FL
239-920-8324

Hifi Buys
Atlanta, GA
770-931-0606

Stereoland
Bloomington, MN
952-829-9700

Artisan Green
Voorhees, NJ
856-616-0909

Smart Spaces
Oklahoma City, OK
405-752-1115

Jeetri Electronics & Services
Frisco, TX
919-491-4514

Theater Advice
Frisco, TX
972-200-4032

PunchMax Tech Solutions
Ashburn, VA
571-306-1528

C

AUDIO-TECHNICA AT-VM95C, E, H, ML & SH:
$39–$199 DEPENDING ON STYLUS $$$
A series of cartridges based on the no-longer-available Audio-Technica AT95E, the VMs all use the same body with a choice of interchangeable styli. Comparing the top model, the Shibata-tipped AT-VM95SH ($199), with his reference moving magnet, Ortofon's 2M Black, HR felt the A-T had more push and bounce, keeping the beat and carrying the tune better than the Ortofon. Switching to the elliptical-stylus VM95E ($49), he wrote that "the sound had even more pulse, presence, and genuine reggae-music energy. ... It made the Shibata-tipped VM95 sound overly smooth and polite." Changing to the conical-stylus AT-VM95C ($34), HR found that it sounded "cool, fast, and powerful but also detailed and invigorating." He concluded that the cheapest A-T with its conical stylus was, music-pleasure–wise, the most satisfying cartridge of the family. (Vol.44 No.1 WWW)

DENON DL-103: $349 $$$ ★
In production since 1962, the DL-103 is a resolutely old-fashioned cartridge with a two-piece plastic body. Its two-piece aluminum cantilever drives a cross-shaped armature wound with several turns of fine-gauge copper magnet wire. Its nude, square-shank diamond stylus is ground to a spherical tip. Though the Denon offered excellent bass depth and impact, with an overall exciting and "pleasantly forward" sound, its high-frequency response peak made bright recordings "a bit more forward than ideal." Nonetheless, AD deemed it "a superb cartridge and a remarkable buy." Compared to Denon's DL-A100 100th Anniversary moving coil cartridge, AD's old DL-103 was tubbier in the bass but just as dynamic and dramatic. Performance with the stock spherical stylus tip squeaks into low Class B, he adds, saying that, "apart from various Miyajimas and the always-recommendable Miyabi 47, it's hard for me to think of another standard (non-pickup-head) type of cartridge that has this much impact and drama." KM's go-to cartridge. HR tried the DL-103 on Music Hall's Stealth turntable, commenting that the DL-103 remains one of the most flat-out enjoyable-to-use cartridges he knows. It brings "vibrancy and spirited dynamics to every type of recording." Borderline Class B. (Vol.3 No.9, Vol.30 Nos.10 & 12, Vol.34 No.12, Vol.39 No.9, Vol.45 No.10 WWW)

DYLP AUDIO WINDBELL MC100 MKII: $350
"Out of the box," MF wrote, "this modestly priced cartridge, which outputs 0.3mV and tracks at 1.8gm, sounded lively and kept a firm, exciting grip on the music's rhythmic thrust." He concluded that "Even though it's an MC, the sound reminded me of what MM lovers love and claim MCs don't provide: linearity." (Vol.45 No.4 WWW)

DYLP AUDIO WINDBELL MC100 MONO: $325
MF described this true mono cartridge, fitted with a spherical stylus, as the "home run" of the three DYLP cartridges he reviewed: "The MC100 Mono doesn't come close to my mono reference $3475 Miyajima Labs Infinity's nuanced sustain and generous decay, or to Ortofon's $1379 Cadenza mono, but for $325 you can explore the joys of mono without breaking the bank." (Vol.45 No.4 WWW)

LP GEAR CARBON FIDELITY CF3600LE: $49.98 $$$
Based on Audio-Technica's universally heralded AT3600, the CF3600LE replaces the AT3600's aluminum cantilever and conical diamond stylus with a carbon-fiber cantilever and an elliptical stylus and. HR found that this moving magnet initially failed to satisfy—but after 12 hours of continuous play, the CF3600LE sounded quiet, lushly detailed, and engaging, especially on female vocals. (Vol.44 No.1 WWW)

ORTOFON 2M BLACK: $695 ★
Partnered with the budget-priced Audio-Technica AT-PEQ3 phono preamp, the "ridiculously good" Ortofon 2M Black produced a bright, open sound with "surprising heft and slam." Because its Shibata stylus is sensitive to rake angle, the 2M Black should be used only with tonearms that permit adjustment of VTA and SRA, Mikey advised. HR used the Black on the Music Hall Stealth turntable, writing that compared with the Ortofon 2M Blue, "tone quality, and the illusion of force and forward momentum, were enhanced to a degree that made me think I could live happily forever with this setup." (Vol.32 No.12, Vol.45 Nos.10, 11 & 12 WWW)

ORTOFON 2M BLUE: $239 $$$ ★
Affordable moving magnet cartridge with user-replaceable elliptical diamond stylus. With the Blue mounted in a Music Hall Ikura turntable and arm, BJR found that "the transients and bloom of the string quartet were reproduced with no trace of coloration or smear. Superb transient articulation and dynamics. Competes with cartridges at double its price. Also an excellent match for both the Music Hall Ikura and VPI Nomad turntables." HR auditioned the Blue on Music Hall's Stealth turntable and noted that the 2M Blue was more passive than propulsive-sounding. "Its best trait was how it emphasized fine textures and the atmospheric aspects of recordings," he concluded. (Vol.37 No.12, Vol.45 No.10 WWW)

D

DELETIONS

Fuuga, Grado Epoch3, Lyra Atlas λ Lambda SL, Ortofon 2M Red, Ortofon MC A Mono, Tzar DST, Tzar DST (wood-bodied), not reviewed in a long time.

PHONO PREAMPS/MOVING COIL STEP-UP DEVICES

A+

BOULDER AMPLIFIERS 2108: $62,000
When he reviewed Boulder's flagship 2008 phono preamplifier in 2002, MF concluded that "it's hard to believe that, for some time to come, any [phono preamp] will equal or surpass the monumental performance of Boulder's 2008."

Almost two decades later, the new two-box flagship replaces the 2008's three power supplies with four: left, right, logic, and an independent standby supply. The through-hole components and boards have been replaced by surface-mount equivalents, and the circuitry features proprietary, house-made, "phono-specific," 993S and 995S discretely implemented "op-amp" modules. There are now three equalization choices, as well as switchable high-pass filters at 10Hz and 20Hz. Gain is adjustable. With the MC input, the default loading impedance is 100 ohms, though resistors can be added to provide impedances from 50 ohms to 1000 ohms in 25 ohm increments. When set to MC, the third input offers a 1k ohm impedance. The MM input's loading is also adjusted with resistors, from 1k ohm to 10k ohms, while the third input set to MM offers the usual 47k ohms. And the sound? "The 2108 produces both a sense of soaring exultation in the upper registers and gritty drama in the lowest one," enthused MF, adding "Boulder detractors who think their products are too analytical, sounding dry and bleached, ought to give the 2108 a listen." He concluded that the 2108 "is very musical, plus, like the original 2008, it is granite-like in the best possible sense." JA was equally enthusiastic about the 2108's measured performance: "the performance of the Boulder 2108 on the test bench reveals it to be an extraordinarily well-engineered (though expensive) phono preamplifier." (Vol.43 Nos.8 & 10 WWW)

CH PRECISION P1 PHONO STAGE: $31,000–$90,850

Built with a sleek aluminum-alloy case with no screws visible on any of its surfaces, the Swiss-made CH Precision P1 is no less sophisticated inside. This solid state phono preamplifier offers multiple inputs, two of which address current-amplification circuits—an approach that, according to MF, produces "the best signal/noise ratios" and does not require cartridge loading to achieve flat response. For use with its voltage-amplification inputs, the P1 offers a menu-driven "wizard" that analyzes the entire record-playing system and calculates and applies the optimal load. Beyond that, as MF points out, the user can manually test the P1's entire loading range of 20 ohms to 100k ohms, selectable in 500 steps: "load fetishists, knock yourselves out!" Used with its optional X1 outboard power supply ($17,000), the P1 provided Mikey with tonal neutrality and an ultralow noise-floor: "Some products have me up all night, pulling out record after record; some don't. The P1 did, and gave me an exciting and fully pleasurable sonic ride every time." In the June 2017 *Stereophile*, MF refocused his attention on the X1 power supply, observing that, "with the X1 off, the P1's image solidity and pile-driver–like rhythmic certainty ... were somewhat diminished"—and noted that he'd purchased the CH Precision combo for his own enjoyment. In August 2018, MF wrote about his experiences with a double P1/X1 combo—something that seems to have been done by more than one hobbyist of immodest means. Thus connected, these four high-tech boxes know what has happened and behave accordingly—but while "the four-box version was even more dynamic" and possessed of "a more relaxed and supple midrange," Mikey could not countenance a $96,000 phono preamp. In his July 2023 report, MT discussed his auditioning of the two-box P1/X1 combo, especially using its current-mode input. While noting that the P1 is supremely quiet with both current- and voltage-mode inputs, he wrote that the P1's characteristic quality "was its uncanny ability to unravel densely packed music and present it with utter clarity." It offers "resolution and transparency that belies its apparent complexity," he concluded, though he warned that "it doesn't offer a rose-tinted view of your record collection." (Vol.40 Nos.4 & 6, Vol.41 No.8, Vol.46 No.7 WWW)

CHANNEL D LINO C 3.3: $3799, BASIC MODEL; $7082 AS REVIEWED

This battery-powered, direct-coupled, wide-bandwidth, balanced, transimpedance phono preamplifier keeps the basic circuitry of the Lino 2.0 that was reviewed in Vol.42 No.6 but adds a high/low cartridge impedance damping switch that allows the use of cartridges with internal impedances up to 40 ohms even in current mode, as well as an impedance reduction by a factor of 3 of the RIAA network's passive section. The "fully loaded" review sample was fitted with ultrahigh-precision RIAA certification, front-panel LED indicators, and a remote control. It also had the optional balanced or unbalanced moving magnet input and an optional voltage-based moving coil input, both with variable gain. As with the 2.0, if your tonearm cable isn't terminated with XLRs, you'll need RCA-to-XLR adapters—and pin 1 must not be internally connected to either pin 2 or 3. MF loved the sound of the Lino C 3.3, writing that it offered "ultratransparency; jet-black backgrounds; deep, tightly gripped, powerful bass; airy, fully extended highs free of etch, grain, or hardness." He found the soundstage expansive with solid, 3D imaging and the sound was fast, responsive, effortless. "Macro- and microdynamics were impressive, producing forceful macro slam and subtle micro shifts when on the record," he noted. JA was equally impressed with the 3.3's measured performance, finding that it featured astonishingly accurate RIAA correction, extremely low noise, high overload margins, and vanishingly low distortion. "Channel D's Lino C 3.3 is the best-measuring phono preamplifier I have encountered," he concluded, adding "Wow!" (Vol.45 Nos.6 & 7 WWW)

MANLEY LABORATORIES STEELHEAD RC SPECIAL EDITION MK II: $10,899

The RC Special Edition Mk II is the result of a collaboration between Manley and Los Angeles–area audio retailer, tube dealer, and importer Upscale Audio. It differs from the original Steelhead, reviewed by PB and MF in 2001 and 2003, by offering different loading settings for the autoformer that also serves as the MC step-up, and two cryogenically treated 6922 tubes. The review sample substituted Tungsram PCC88s. (The other tubes are four American-made military-spec 7044 dual triodes.) It still has two inputs for MC cartridges, one input for MM cartridges, a volume control, a remote control, a tape loop, an outboard power supply, and buttons for muting, lowering the volume by 20dB, activating a line-level input, summing the channels for mono playback, and entering standby mode. Listening at length to a John Prine LP, AH wrote: "The Manley rendered the band in holographic high relief; Mike Leech's electric bass sounded more thunderous and better defined than I'd heard it. Every wisp of reverb around Bobby Emmons's organ became obvious. The tone colors of the band bloomed like wildflowers in an Appalachian meadow. But what captivated me most was how relentlessly the Manley zeroed in on the flow and emotional meaning of Prine's songs." He decided that the Manley phono stage "sounded more detailed, refined, and coherent than most of the step-up transformers I've heard, and more colorful, textured, and vivid than most of the solid state preamps." (Vol.46 No.1 WWW)

A

AUDIO RESEARCH REFERENCE PHONO 3SE: $24,500

This revised version of the original Phono 3 features new internal components and a wiring change but still incorporates a FET input stage, six 6H30 tubes, and a hybrid tube/solid state power supply. MF found that the original preamp, reviewed in January 2017, sounded slightly "bloomy and generous in the lower midrange/upper bass"; that coloration was eliminated from the 3SE, which produced a faster, cleaner, more transparent sound with greater midbass control. "For owners of the original 3, the $3000 upgrade is well worth doing," he concluded. (Vol.44 No.2 WWW)

CHANNEL D SETA MODEL L: $5899 ★

Designed to take full advantage of the Pure Vinyl app's digital RIAA correction, the beautifully built Seta Model L includes balanced and single-ended inputs, balanced unequalized outputs, variable gain, and a built-in, rechargeable battery power supply. Recordings made using the Seta Model L's optional RIAA-equalized outputs were "models of clarity, definition, tonal accuracy, detail resolution, and spatial coherence," wrote MF. "There is no doubt that the Seta Model L has been superbly engineered," praised JA. Compared to the Liberty B2B-1, the Seta Model L lacked some midbass energy but did a better job of preserving recorded ambience, said JA, who also admired the Channel D's superb measured performance. He subsequently purchased the review sample. An optional internal RIAA compensation module adds $1199. (Vol.33 No.8, Vol.36 No.12, Vol.43 No.11 WWW)

DSA PHONO III: $19,000

This incredibly versatile, remote-controlled, "Lab Grade," solid state phono preamplifier impressed MF. EQ curves include, in addition to standard RIAA, pre-RIAA curves for Columbia and Decca/ffrr, including for 78s, all realized with passive, low-pass networks. The Phono II is supplied with four patent-pending "Critical Mass" isolation feet and titanium threaded adapters that screw into the chassis underside. The rear panel has three pairs of inputs with a choice of single-ended RCA and balanced XLR inputs and one set of outputs via single-ended and balanced connectors. There's a rumble filter, a polarity inversion switch, variable loading, and gain can be set to 40dB, 46dB, 50dB, 56dB, 60dB, and 66dB. "If you are looking for a phono preamp with a timbral 'personality,' the Phono III might not be for you. It hasn't got one, not that I could identify," wrote MF. "But if you want a phono preamp that gets out of the way and lets your cartridge or cartridges express their timbral personalities, ... the Phono III could be for you," he summed up. (Vol.44 No.7 WWW)

EAR PHONO CLASSIC: $1695–$2395

Rating is for the MM section; rating including the internal SUT, for use with MC cartridges, is Class B. The biggest change over the late Tim de Paravicini's EAR 834P preamplifier is the switch from 12AX7s to tubes with a slightly higher operating voltage, of which there is a more dependable supply. Available in three versions: MM-only for $1695; MM and MC with step-up transformers for $1895; and an MM/MC version with a heavy chrome front panel for $2395. HR reviewed the fully loaded version. He found the MC input "clear, easy on the ear, and cinematically detailed," but compared with expensive SUTs, "kind of thin, flat, and low in contrast." Feeding the EAR's MM input with the Bob's Devices Sky 20 SUT, HR heard that the bass was deeper and tighter, the midrange glowed, and the treble seemed extended. Overall, it took less than one side of one LP for HR to recognize the "fundamental truthiness" of the EAR's way with records. Highly recommended for the MM section. (Vol.45 No.3 WWW)

EMIA PHONO STEP-UP TRANSFORMER, WITH COPPER WIRE: $3375 WITH COPPER WIRE, $6000 WITH SILVER WIRE ★

Dave Slagle, whose radically rebuilt Quad ESL loudspeakers have astounded more than a few listeners, winds his own step-up transformers and sells them under the brand name EMIA—a collaborative design and manufacturing effort with Jeffrey Jackson, who specializes in tube amplification and horn loudspeakers. The EMIA Phono transformer, which is housed in a steel box with solid walnut top and bottom plates, is unpotted and has a fairly large core with 80% nickel content. In addition to one pair each of RCA input and output jacks—multiple primary coils aren't available—the EMIA Phono has a third pair of jacks, wired in parallel with the primary and intended for use with resistive plugs (supplied), for cartridges that might need such things. The EMIA is available with copper or silver windings; AD spent some quality time with a copper-wire version wound with a 15:1 ratio, for use with his EMT TSD 15 and Denon DL-103 cartridges. He described the EMIA as offering "an immense sense of drive" with his EMT, as well as "texture and tone in spades. In buckets. In tanker holds." All in all, AD found the EMIA to sound "clean, clear, rich, detailed, and, above all, musically exciting—all for approximately half the price of the deservedly well-regarded Hommage T2," the latter transformer being his longtime reference. HR found that the EMIA sounded delicious and played "butter-smooth" with his Koetsu Rosewood Signature Platinum. Although AH was not a fan of silver conductors, he found that the silver-wired EMIA sounded nothing like the silver wire he remembered. It provided "an addictively smooth, highly resolving facsimile of my music. While it wasn't quite as punchy as the Auditorium 23, it produced a little more detail and a lot more space as well as deeper, more precise bass." (Vol.40 No.8, Vol.44 No.11, Vol.45 No.11 WWW)

EMT 128: $12,830

The front panel of this slim, well-finished preamp features four toggle switches, one each for Off/On, Mono/Stereo, DIN 78/RIAA EQ, and Mute/Sound. The rear panel features

one pair each of single-ended (RCA) inputs and balanced (XLR) outputs, and the circuit uses NOS 5784WB tubes. Lundahl transformers are used for both inputs and outputs. Using EMT's high-output JSD Novel Titan MC cartridge and the low-output Miyajima Labs Madake Snakewood MC cartridge, MF wrote that the 128 "produced that magic ether that only the best tube-based phono preamps produce, and it resolved and unraveled small details in the upper frequencies of many familiar recordings. Ether, yes, but without lower-midband timbral bloat or thickness, without midrange excess but with mesmerizing transparency and delicacy." On the test bench, the EMT 128 offered superbly flat RIAA correction from 30Hz to 10kHz, primarily second-harmonic distortion, very good channel separation, and low noise. However, the overload margins were on the low side, which means it will work best set to its lower gain and with low-output MC cartridges like Ortofon's Verismo rather than the high-output Novel Titan; low overhead margins lower rating from A+ to A. (Vol.45 No.5 WWW)

GOLD NOTE PH-1000: $11,999 AS REVIEWED

The programmable PH-1000 is "by a considerable margin the most sophisticated, most configurable phono preamplifier that any audio manufacturer has ever produced," wrote MF, or at least that he's aware of. It offers two single-ended (RCA) inputs and one balanced (XLR) input. It can also be fitted with two line inputs. Each phono input can be set to MC or MM, with gain adjustable from –9dB to +9dB in 3dB steps relative to the default 0dB setting. There are multiple choices for input impedance and adjustable input capacitance for both MC and MM modes. As well as RIAA deemphasis, there are 18 alternate EQ settings. As well as fixed output in Stage mode, a Preamplifier mode allows volume to be controlled. JA commented that "RIAA correction was superbly accurate," adding that both distortion and noise were very low in level. He also noted that while the overload margin at the top of the audioband was relatively low, "this can be increased by increasing the phono stage's gain without incurring any significant noise penalty." MF described the Gold Note's sound as "smooth, silky, sophisticated." Though he found low frequencies somewhat polite, overall, he concluded that the PH-1000 "was quiet and both micro- and macrodynamically accomplished. Its transparency, clarity, and freedom from congestion in the midrange were notable." (Vol.45 No.3 WWW)

KOETSU SUT: $4995

This transformer uses a shielded and vibration-isolated transformer with a permalloy core, offers 26dB gain, a 20Hz–50kHz (±3dB) bandwidth, and is intended to be used, naturally enough, with Koetsu phono cartridges. HR tried it with Koetsu's Rosewood Signature Platinum and played the MoFi reissue of Miles Davis's *In a Silent Way*—"The reverb was dramatically more intense. I repeat, dramatically more intense, with more force behind it than I normally experience," he wrote. (Vol.44 No.11 WWW)

LEJONKLOU ENTITY: $2795

This utilitarian-looking, solid state MC-only design from Sweden uses transistors, wire, solder—even the washers used in the component's casework—that have all been obsessively selected by designer Fredrik Lejonklou after hundreds of comparative listening tests. Out of the box, the Entity sounded bleached, felt AH, but after about 50 hours of use, the preamp "began to sing with its authentic voice," sounding neutral, extended, transparent, fast, and resolving. AH found that the Entity was at its best with unbalanced Linn Silver interconnects ($452/1.2m pair), when it sounded more refined, dimensional, controlled, and tonally richer. In the test lab, the Lejonklou's RIAA correction featured a very slight plateau in the midrange, coupled with excellent channel separation, low noise, and very low distortion. Overload margins were very good in the bass and midrange but less so at the top of the audioband, meaning that the Entity will be best used with low-output moving coil cartridges. (Vol.45 No.7 WWW)

LUMINOUS AUDIO TECHNOLOGY ARION MK.II: $8000

The Arion Mk.II is identical to the original version of this phono preamp (reviewed by MF for AnalogPlanet.com) except that it eliminates the MM input and features higher-voltage–rated dual-toroidal transformers and an upgraded MC input stage. MF echoed the manufacturer's claims, writing that the Arion exhibited "a sense of purity and low-level detail resolution that [was] highly dynamic and musically involving." With the Audio Relax EX1000 cartridge mounted on the Schröder arm on the OMA K3 turntable, feeding the Arion Mk.II loaded at 100 ohms, the combination produced a dazzling presentation; MF said it was "among the most enticing vinyl-playback combos I've yet heard." He's heard a lot. (Vol.44 No.12 WWW)

LUXMAN EQ-500: $6695 ★

Before he'd played a single note through the EQ-500—even before he'd plugged it into a wall outlet—this phono preamp had impressed AD by offering virtually every feature he'd ever wanted from such a product, and at least one he'd never imagined: adjustable gain, adjustable resistive loading, adjustable capacitive loading, switchable scratch filters and rumble filters, a mono switch, a phase switch, a very unexpected built-in cartridge demagnetizer . . . everything except a video camera for backing it out of the driveway. Best of all, the EQ-500, which uses a mix of ECC82 and ECC83 small-signal tubes plus an EZ81 rectifier tube, sounded wonderful to AD, who observed that "the textures of the close-miked violin, cellos, and double bass in [the Electric Light Orchestra's] "Queen of the Hours" were almost overwhelming—a very pleasant overdose." Art's conclusion: "If your budget can stretch this far, the Luxman EQ-500 is a must-hear." KM liked it, too: It's part of his standard reviewing kit. (Vol.39 No.5 WWW)

MOBILE FIDELITY ELECTRONICS MASTERPHONO: $5998

The solid state MasterPhono's front panel is dominated by a pair of VU meters, flanked by two knobs. One knob selects Gain: 40dB, 50dB, 60dB, or 70dB. The second knob chooses one of 10 MC cartridge loads: 15, 30, 50, 75, 100, 500, 1k, 10k, 47k ohm, or "OPT," which allows the use of custom load values made via resistor-equipped RCA plug-ins. There is also a high-pass/subsonic filter button, a mono button, a knob for dimming the meter display, and a remote control. Hold the Meter button down for a few seconds, and MasterPhono offers two test modes that allow the meters to be calibrated and the cartridge's azimuth setting to be optimized for maximum channel separation. There are three pairs of inputs: regular single-ended RCA; balanced XLR; and a current-drive input that gives users a choice of either single-ended or balanced connection. Like the tubed PrimaLuna EVO 100, HR found that it took three full days for the MasterPhono to lose the gray flatness it showed out of the box. It then never sounded "transistory" (hard, shallow, gray), instead walking a narrow line between hard and soft, dry and wet, warm and cool—leaning maybe 10% towards wet and warm on the most atmospheric recordings. "It did not attenuate reverberation or diminish atmosphere," wrote HR, who never consciously wished for tube treats he wasn't getting. Using a Dynavector XX2 moving coil, HR found the current-drive input eliminated a faint haze that he had noticed in the top octaves in voltage mode. "What was preserved, and perhaps even enhanced," he decided, "was the XX2's dynamics." (Vol.47 No.1 WWW)

MOLA MOLA LUPE: $9850

This versatile solid state preamp has three pairs of inputs using single-ended RCA jacks and one with balanced XLRs, each with its own grounding post. There are single-ended and balanced outputs, which may be selected individually or together, and two entirely separate phono sections for MC and MM cartridges. Four front-panel buttons allow users to set each input, adjusting gain, input impedance, polarity, subsonic filter, stereo/mono, and equalization. For the last, the Lupe offers 72 permutations of its three basic EQ variables: bass turnover, rolloff, and low shelf. A downloadable app, Mola Mola Control, available for both iOS and Android, talks directly to the Lupe over Bluetooth, and provides access to all the preamp's many adjustments. MT was concerned that all these bells and whistles might distract people from the Lupe's main plus point: its extraordinary performance and its ability to breathe fresh life into pretty much every record he played through it. "This is not a warm, fuzzy-sounding phono stage," he wrote, "but it is exceptional in its ability to take all the information a cartridge throws at it and sort it into a sound that's coherent and detailed, and it never sounds bright or hard." (Vol.47 No.3 WWW)

NOBALA STEP-UP TRANSFORMER: $8495

This violet anodized-aluminum SUT from Japanese company Murasakino is intended for use with MC cartridges with impedances of 5 ohms or lower. AH found that to be the case and noted that the Nobala reproduced more of his music than any other SUT, and possibly any phono device, he'd heard. "It simply let through more of everything: detail, texture, dynamics, even groove noise," he wrote, though he commented that it didn't sound quite as colorful as the Auditorium 23 or the EMIA. (Vol.45 No.11 WWW)

PARASOUND HALO JC 3+: $2499 $$$ ★

The Halo JC 3 is a true dual-mono design with a large R-core transformer power supply. Construction quality is first rate, top-shelf parts are used throughout, and the stout, heavy case is beautifully finished. Designer John Curl favored purity over adjustability, offering minimal loading options: 100 ohms or 47k ohms for moving coil cartridges and 47k ohms for moving magnet cartridges. Its fully direct-coupled RIAA equalization circuit is based on the circuit used in Curl's famed Vendetta Research SCP-2, while the JC 3's output stage is a true dual-differential, balanced design. In addition, the JC 3 has a built-in AC line conditioner, and its power supplies are modeled after those found in the extremely quiet Halo JC 2 line stage. Though it lacked the dynamics and transparency of either Pass Labs' XP-25 or Ypsilon's VPS-100, the JC 3 combined superb musical grip and control with a timbrally and texturally ideal midrange. "The JC 3 represents the best current value in a phono preamp that I know of," said MF. Though it also lacked the Sutherland 20/20's tonal richness and punchy sense of pace and drive, the Halo JC 3 produced a detail-rich sound with tight, extended lows, a clean midrange, and carefully drawn images on a huge, open soundstage. "If your tastes run to purity, clarity, neutrality, and detail, you'll be hard-pressed to find a better phono stage for anywhere near $2350," concluded BD, who recommended a Class A rating. The JC 3 sounded remarkably similar to BJR's reference, the Vendetta SCP-2, but lacked some high-frequency purity and ambience recovery. JA noted superb measured performance. Of the Halo JC 3+, which adds variable cartridge loading for the MC input, HR wrote: "The John Curl–designed Halo JC 3+ is the best commercially available phono preamplifier I've used—period." (Vol.34 Nos. 3 & 10, Vol.35 No.2, Vol.39 No.6 WWW)

PRIMALUNA EVO 100: $3695

The EVO 100 features dual-mono 5AR4 tube rectification; dual-mono choke-input EL34-regulated power supplies; two 12AX7 twin triodes per channel for the RIAA stage; and one 6922 twin triode per channel for its moving coil input stage, which sits in its own shielded, cushioned box. The gain choices are 40dB for MM, 52, 56, and 60dB for MC, and there are five MC loading choices—50, 100, 200, 500, and 1000 ohms. PrimaLuna distributor Kevin Deal warns that the EVO needs three days powered on to sound its best, following which HR commented that the PrimaLuna "completely eliminated the EMT JSD 6's tendency to sound tight and analytical, giving me instead a cartridge–phono stage combination that was both lush and heart-pounding fun." HR subsequently compared the EVO 100 with the MoFi MasterPhono, noting that with the PrimaLuna, he preferred the Denon DL-103 with a very heavy, 50 ohm load rather than the much higher impedances he liked with the MasterPhono. When AH auditioned the EVO 100, he found that it was the quietest one he'd heard, "ever." Following 100 hours of warm-up, AH wrote that the music "pulsed and shimmered on a huge soundstage and had a liquid, luminous character I associate with great tube circuits." He then replaced one pair of the 12AX7s with early-1960s RCAs and the stock 6922s with Amperex Bugle Boys. "While this substitution made the EVO 100 slightly noisier," he wrote, "it also got rid of the glassiness and, tonally speaking, thickened the sauce." (Vol.46 No.12, Vol.47 No.1 WWW)

PRO-JECT PHONO BOX RS2: $1999 IN BLACK OR SILVER $$$

The full-featured, fully balanced, dual-mono RS2 has unbalanced (RCA) and balanced (XLR) inputs and outputs.

Genuine GoldenEar

Honoring our rich history while moving boldly forward…

The **T66** — an all-new GoldenEar floorstander with powered bass.

Several important cosmetic and sonic refinements distinguish the new T66 from previous GoldenEar speakers.

These include a dramatically improved crossover design, direction-controlled internal wiring, two sets of binding posts for biwiring, a perforated metal grille, and a sturdy cast-aluminum base.

In addition to GoldenEar's trademark Gloss Black finish, the T66 is also available in a vibrant Santa Barbara Red.

Unmistakably GoldenEar, thoughtfully improved — a speaker to live with and to love.

GoldenEar™

Gain ranges from 40dB to 70dB in eight steps, four each for MM and MC. Resistive loading for MC cartridges is continuously variable from 10 to 1000 ohms, plus 47k ohms and variable capacitive loading for MM cartridges. There's also a switchable rumble filter, RIAA and Decca/ffrr equalization, and a balance control. JMu auditioned the RS2 both with its standard switch-mode supply and with the optional Power Box RS Uni 4-Way linear power supply ($799). Her first impressions with the standard supply and a Clearaudio Talisman V2 MC were that the RS2 seemed neutral to slightly cool, detailed, and lively: "It sounded clean, almost pristine, on the lighter side in terms of body and heft." With her MoFi UltraTracker MM, the sound was more midrange-focused, with good detail and musicality. Experimenting with resistive loading in MC mode, JMu found that with the optimal loading "the degree of detail seemed to increase, as did realism and clarity. The musicians' placement seemed to grow more spacious and specific." JMu felt that with the RS Uni supply, backgrounds became more silent and sustains and decays seemed to linger longer. Writing from his test lab, JA was impressed by the superbly accurate RIAA deemphasis, the extremely low distortion and noise, and the high overload margins. Peculiarly, he found that the RS2's superb measured performance with the linear Power Box became even better when he substituted the standard switch-mode supply. Tom Fine echoed JMu's recommendation and commented on how useful he found the RS2's output-balance control and the options for adjusting capacitive and resistive loading. He concluded that while this preamp is the opposite of set-it-and-forget-it, "if you have a few cartridges in rotation and you want to spend some time dialing in a favorite sound profile, it's a great option." (Vol.44 No.9, Vol.45 No.3 WWW)

SUNVALLEY AUDIO SV-EQ1616D: $995 (KIT, WITHOUT TUBES), $1585 (ASSEMBLED WITHOUT TUBES)

Sunvalley's SV-EQ1616D's phono equalizer is available as a kit or fully assembled. It uses 12AX7 and 12AU7 tubes for MM gain with a FET-based input stage for MC cartridges. There is a choice of two filters for 78rpm enthusiasts, tailored to match either European or American standard preemphasis, as well as selectable EQ for pre-1956 microgroove pressings from Columbia (NAB) or Philips, Capital, etc. (AES). It also offers a high-frequency boost-or-cut adjustment, and the two pairs of outputs can be switched from stereo to mono. HR found that with his Hana, Koetsu, and My Sonic Lab moving coil cartridges, used with auxiliary step-up devices, the SV-EQ1616D "generated the most vivid and nuanced analog sound" he'd heard in his bunker. Trying the Koetsu into the Sunvalley's MC input, HR was impressed by the preamplifier's "ability to boogie [and] recover substantial 3D spaces" without shaming this venerable, much more expensive cartridge. (Vol.43 No.11 WWW)

SUTHERLAND ENGINEERING LITTLE LOCO MK2: $3800 ★

Although phono preamps that work on the current-amplification (as opposed to voltage-amplification) principle still account for a small minority of the market, that technology took a step forward in 2019 with the Sutherland Engineering Little Loco, itself a less expensive version of the company's recent Phono Loco. The Little Loco, a solid state phono pre with 46dB of gain, is designed for moving coil cartridges only, and even then not every make or model of cartridge will lock in with it. But at its best in Brian Damkroger's system, the "trivially easy to use" Little Loco provided "a completely new amount and level of detail," and on the test bench it coaxed JA into declaring, "This is a very linear circuit." Keep in mind that, as with all other current-amplification phono preamps, only cartridges with very low internal impedance are suitable, and one's phono cable must be ungrounded and fitted with XLR plugs or adapters. The Mk.2 Little Loco, which HR reviewed in January 2022, has single-ended inputs—he found that with the <1 ohm Ultra Eminent Ex the Mk.2 made "the Ex's quiet spaces quieter, its deep spaces deeper and easier to see into," adding that the Ex–Loco combo emphasized the physical character of instruments, the materiality of wood and metal. "Rich inner details, like the tautness of drum-head skins or the decay of cymbals, are not submerged in the larger mass of orchestra and hall sounds." (Vol.42 No.10, Vol.45 No.1 WWW)

SUTHERLAND ENGINEERING PHONO LOCO: $8200 ★

The imperative "use as directed" no longer applies solely to big pharma: In recent years it has become key to the enjoyment of that newest hi-fi category, the current-amplification phono preamp, which shines with moving coil cartridges of very low internal impedance yet fails with all others. So it is with the Phono Loco, the dearer of two current-amplification models from Sutherland Engineering. Like the more affordable Sutherland Little Loco ($3800), the Phono Loco offers user-adjustable gain; the more expensive model differs in its use of higher-quality parts and a more robust power supply. The Phono Loco rewarded MF with "finely focused, ... solidly three-dimensional images" and a good sense of immediacy. Timbral performance was "overall on the warm side," although MF described note sustains as "stingy," resulting in "a dry quality." JCA also spent time with the Phono Loco, echoing MF's thoughts on its "extremely quiet" performance and enjoyably "corporeal" images. (Vol.42 No.12, Vol.43 No.2 WWW)

SUTHERLAND ENGINEERING SUTZ: $3800

The SUTZ looks exactly the same, inside and out, as Sutherland's Little Loco. Inside, it sports the same three jumper-activated gain settings (to be upgraded in production to five). The SUTZ, though, lacks RIAA correction, instead using a transimpedance circuit with solid state devices to convert an MC's output current to a sufficiently high voltage to feed a conventional phono preamp's MM input. HR decided that the Sutherland's current-drive input was passing on more information from Dynavector's XX-2 MKII MC, with less noise and IM distortion, than other phono preamps. Using the SUTZ to feed a Tavish Adagio phono equalizer, he concluded

The Ultimate in Ultrasonic Record Care

Degritter Mark II Record Cleaning Machine

"

[Sparkling] clean in ways that vacuuming cannot approach."

– Michael Fremer, *Stereophile*

musicdirect®

312-433-0200

that Ron Sutherland's headamp "let me add my own choice of tube glories to the quiet steadiness of virtual short loading." (Vol.46 No.3 WWW)

SW1X LPU I SPECIAL SPX: $4375 AS REVIEWED
MF was impressed by this sweet-sounding, handmade-in-England, vacuum tube–based moving magnet phono preamplifier. RIAA EQ is passive, an EF86 pentode tube is used for each channel's input stage, a 6N6P dual triode for the output stage, and there's no overall loop negative feedback. Basic price is $3150—the review sample featured 5Y3 rectification, Audio Note copper-foil-in-oil caps, M6 EI grain-oriented–core power transformers, and a choke-filtered power supply. MF summed up the LPU I by writing that it is "a high-value, smartly designed, classic, 'purist,' vacuum tube–based MM phono preamp that achieves all of the positive things such circuits can offer—especially timbral and textural generosity and transient delicacy—at a very reasonable price, while avoiding pitfalls such as noise, limited bandwidth, soggy bass, and constricted dynamic range; ... great for jazz, classical, and acoustic music." (Vol.44 No.6 WWW)

SW1X LPU III SPECIAL: $11,775
A MM preamp with an input pair of EF86 pentodes that drives an active RIAA equalization network. The output stage consists of a pair of triode-connected, choke-loaded 6S45P triodes. The balanced output is achieved with a transformer. (There are also single-ended outputs.) MF commented on the LPU III's "airy and convincing spatial staging" that was matched by its delivery of well-saturated, natural instrumental timbres with rhythm'n'pacing and "punch" to spare. He concluded that while the SW1X LPU III is easy to recommend for classical and acoustic jazz, "rockers in need of full electric bass extension and transient grip should look elsewhere." (Vol.45 No.8 WWW)

TRON ELECTRIC CONVERGENCE SIGNATURE: $4000
AH auditioned the moving coil version of this bare-bones preamp, which has single-ended inputs and outputs, a ground-lift switch, and 68dB of gain. Inside, a pair of potted step-up transformers precede three Russian tubes—a pair of 12AX7s and a 12AU7. "This British phono stage sounds clear, fast, and articulate," he wrote, "never losing track of the music's heartbeat." "Fortunately," he added "this burnished, rich sound doesn't include bloated bass, slow transients, or the other sonically gooey artifacts associated with some vintage-style tube circuits." Compared with the Manley Steelhead RC, the Tron produced richer, more colorful images and simply sounded more beautiful. But it omitted some of the ambient information and long decays that the considerably more expensive Manley extracted from AH's records. (Vol.47 No.1 WWW)

X-QUISITE SUT X-20 STEP-UP TRANSFORMER: $13,000
A 4Ns silver-wire toroidal transformer with a low-loss alloy core developed for the X-quisite phono cartridge that's said to match it "magnetically, electrically and mechanically" and to be optimized "regarding eddy current and hysteresis loss in order to provide the best properties to the unique ceramic transducer in combination with a tube preamplifier." Gain is 26dB (1:20). MF found that the X-20 magnified everything about the X-quisite ST that he loved and eliminated the qualities that gave him pause. Used with the SUT, the X-quisite did a much better job with high-frequency sibilants, and it completely eliminated the upper-frequency ledge. In its place were impressive linearity and timbral neutrality. (Vol.44 No.9 WWW)

B

AUDITORIUM 23 STEP-UP TRANSFORMER FOR SPU, EMT, OR DL-103: $1295–$1495
The surprisingly heavy Auditorium 23 is about the size of a pack of cigarettes. AH's sample was optimized for the Ortofon SPU—a different version is designed for the Denon DL-103. Nevertheless, using Ortofon MC Cadenza Bronze and Dynavector Te Kaitora Rua low-output cartridges, AH noted that this German SUT sounded tactile and vivid: "It made recordings tuneful and colorful, if a little warmer than real, and did the usual hi-fi things with aplomb." With the Denon version and Denon, Zu, EMT, and Benz cartridges, AD found the sound "dramatic without being brash, and consistently full-bodied and colorful.,"He found the Auditorium 23 "slightly coarser" than the Audio Note AN-S8, lacking some sweetness and color, but "a bargain" nevertheless. (Vol.45 No.11 WWW)

CYRUS AUDIO PHONO SIGNATURE: $2600
User-friendly, remote-controllable phono preamp with a front panel dominated by a green LCD screen. Seven buttons are for choosing the input, setting the rumble filter (labeled "Warp"), cartridge type (MM or MC), gain (40, 50, 60, or 70dB), resistive loading, capacitive loading, and saving the current settings. RCA inputs and output are tightly spaced, which might be an issue with some cables, but there is also a balanced output on XLRs. MF found that the Phono Signature started off warm-sounding and somewhat syrupy in the bottom octaves, but over time it brightened up and achieved a much better balance. Optional PSX-R2 power supply ($1199) produces a subtle but worthwhile sonic jolt that doesn't significantly alter the Phono Signature's reserved but well-organized Brit personality. (Vol.44 No.9 WWW)

ERHARD AUDIO/LUNDAHL SUT KITS: $535–$1930
Kits previously sold by K&K are now sold by Erhard Audio. This one is based on Lundahl LL1931 Ag transformers with amorphous cores and silver wiring. HR auditioned the K&K with Zu Audio's Zu/DL-103 MkII moving coil and enthused over the combination's clarity and the "goose-bumpiness" of its transient bite. "Bass reproduction could be thrilling," he wrote, "just-right tight with genuine power." The Lundahl transformer's best, most obvious trait was "how specifically it rendered recorded information," he concluded. Kits are available fully assembled for an extra charge. (Vol.44 No.11 WWW)

KITSUNÉ LCR-1 MK5: $1498–$2298
The made-in-Korea, two-chassis, solid state KTE LCR-1 MK5 is unusual in that it uses inductors in its equalization networks. Four DIP switches allow users to set gain at any of 13 levels between 40dB and 72dB and resistive loading at any of 12 values from 14 ohms to 47k ohms. In his system, HR found that with various MC cartridges the KTE LCR-1 sounded its most polished and exciting when driven by high-quality step-up transformers. "On its own, with its 63.5dB gain, it did not sound as smooth, refined, or 'correct'" as the twice-as-expensive Parasound Halo JC 3+ phono stage, he wrote, though he decided that "the LCR-1's tone, solidity, and vigor" was preferable to the Musical Surroundings Nova III's "more laid-back, slightly gray refinement." "The Kitsuné KTE LCR-1 has become my daily-driver solid state phono equalizer," concluded HR. He subsequently compared the Kitsuné with Music Hall's Analogue A3 phono preamp, writing that the performers sounded farther from their microphones with the A3 and that its presentation "was less dramatically dynamic and less physical sounding" than that of the LCR-1. (Vol.44 No.7, Vol.45 No.10 WWW)

LOUNGE AUDIO LCR MK.III: $380 $$$ ★
LOUNGE AUDIO COPLA: $385 $$$ ★
LOUNGE AUDIO SILVER WIRE COPLA: $525 $$$ ★
The solid-state LCR Mk.III is named for the type of circuit chosen for its RIAA equalization stage: a zero-feedback inductor-capacitor-resistor (L-C-R) circuit. That stage is constructed with discrete components—remarkable for a US-made product selling for only $340—and combined with class-A biased op-amps for a total gain of 40dB. Power is supplied by an 18V wall wart. HR has logged literally hundreds of hours with his LCR Mk.III review sample, both on its own for use with MM cartridges, and, for MC cartridges, in tandem with Lounge Audio's Copla, a JFET-powered step-up device that does the same job as a phono transformer, only electronically. In both setups, the Lounge rewarded HR with "full-bodied, accurately toned" sound, and enough emotional impact that a favorite Doc Watson song had him weeping. Referring to the $26,000, Class A rated Ypsilon VPS-100, HR wrote: "Could the Ypsilon make me cry 86.7 times easier? I doubt it." HR returned to the Copla in March 2023, using Dynavector's XX-2 MC and feeding the Copla to either SunValley or Tavish Adagio phono equalizers. "The Copla made recordings sound charged and vivid in the extreme but also lucid and relaxed," he wrote, concluding that it "behaved like someone forgot a zero on its price tag." Writing about the more expensive Silver Wire Copla, which looks exactly like the regular Copla, except on the bottom of the chassis, where Lounge Audio founder Robert Morin has tagged and signed it, HR said that the Silver Wire Copla intensifies energy delivery and texturizes harmonics to a degree that makes the extra $130 seem trivial. "Coupled to a Denon DL-103, this is the highest-value phonography I know of," he enthused. (Vol.41 No.2, Vol.46 Nos.3 & 9 WWW)

MUSIC HALL ANALOGUE A3: $1199
With its two caged 12AU7 dual-triode tubes sticking out from the top like ears and two outlined-in-red knobs, one for volume control, the A3 reminded HR of "cartoon cat eyes." It offers both MM and MC inputs. While HR found that the A3's MC input made a good match with Ortofon's inexpensive 2M Blue cartridge, he felt it worked best with the expensive Koetsu MC cartridge when used with Koetsu's SUT feeding the MM input. Compared to the Kitsuné LCR-1 MK5, which he described as "sometimes cool, hard-punching—dare I say masculine-sounding?" HR felt that the A3 presented itself "in a more feminine manner. The A3's presentation was less dramatically dynamic and less physical sounding. But I think the A3 was playing closer to the truth." He concluded that "fine tube sonics and a quality Alps volume control make Musical Hall's Analogue A3 easy to recommend." (Vol.45 No.10 WWW)

PARADOX PHONO 70 SIGNATURE: $3995
This hand-built, solid state phono preamplifier is designed exclusively for very low-output moving coil cartridges and offers 70dB of gain. Inputs and outputs are both single-ended, and an additional pair of RCA jacks is used for custom resistive loading. (The unloaded input impedance is a high 100k ohms.) RIAA equalization is passive. The Pi-filtered outboard 18VDC power supply uses wet silver-tantalum capacitors and expensive Audio Note silver-tantalum resistors, the same resistors used in the preamplifier circuitry. MF did most of his auditioning with Ortofon's Verismo cartridge. Playing Sarah Vaughan's *Live at the Berlin Philharmonie 1969*, he found that the Phono 70 Signature produced a "glistening, remarkably transparent, living rendering of Vaughan's voice and hung it effortlessly and convincingly in 3D space between the speakers." "If you crave warmth in a phono preamp, the Phono 70 Signature isn't for you," he concluded. "But if you want a neutral player that's quiet, super-well-organized, and can plumb the depths and scale the peaks without adding colorations, the Phono 70 Signature is well worth considering." On the test bench, the Paradox offered a low level of predominantly second-harmonic distortion, low noise, and high channel separation. However, overload margins were too low to work well with MC cartridges with a nominal output any higher than that of the Verismo's 200µV. The relatively high output impedance will require careful matching with line preamplifiers if the lows are not to sound lightweight. (Vol.45 Nos.3 & 5 WWW)

QHW AUDIO THE VINYL: $825 (PLUS SHIPPING) $$$
Budget-priced solid state design from Spain offers independent MM and MC inputs. A recording of a double bass sounded natural and well-controlled, felt MF, while drums were immediate and natural-sounding—particularly the cymbals and rim shots. "Add a transparent, generously sized soundstage presentation that had width, height and especially depth, ... and you have ... a ridiculously good phono preamplifier that I think you could insert into your system and fool the most demanding audio fanatic into thinking it cost 10 times what it actually costs. And it's *quiet*." (Vol.44 No.9 WWW)

SCULPTURE A MINI NANO TRANSFORMER: $990
Two (stereo) toroidal step-up transformers with nanocrystal cores and 99.99% copper coils. Available with 1:10 (20dB), 1:20 (26dB), and other gains. HR auditioned the Mini Nano with Sculpture A's A.3I cartridge, with its bronze and wood body—see "Phono Cartridges"—and felt the combination "excavated myriad details and dense textures but ran a bit dark and wet." However, with the aluminum-bodied Zu/DL-103 Mk.II, "the sun came out and scintillating transients returned." With the Mini Nano and Zu/DL-103, image size,

fezz
MADE OF MUSIC.

FROM PIN-DROP SILENCE TO PURE STARTLING REALISM

INTRODUCING FEZZ AUDIO

With their warm and natural sound, vacuum tube amplifiers are the pinnacle of the art and science of hi-fi. Any properly balanced tube system delivers a more nuanced sophisticated listening experience but Fezz Audio takes it one step further with the use of toroidal transformers for the amplifier's power supply.

With far lower flux leakage and radiated energy than standard transformers, toroidal power transformers ensure that the amplifier's sensitive circuitry doesn't pick up additional noise from the power supply.

The result is extended bandwidth, flat frequency response and very low distortion—from dead silence to sunburst finishes.

Fezz Audio amplifiers deliver transparency, clarity, tone and faithful reproduction of the original performance so the music and emotion come through in their purest form.

The name might be new to you but with their outstanding musicality and superior value for money, it's a name you'll be hearing a lot more.

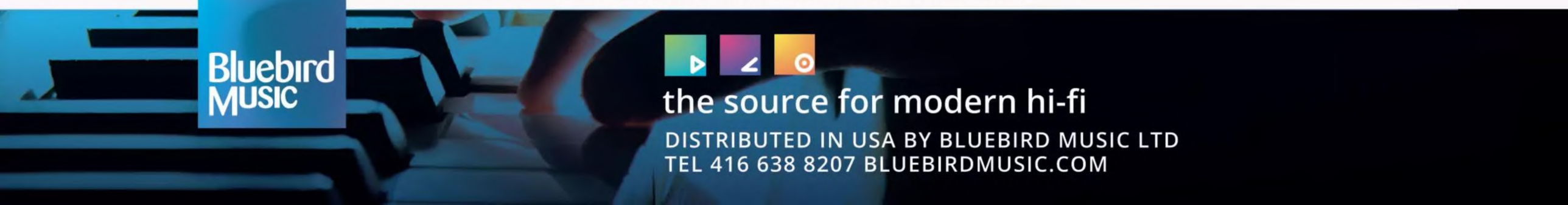
"The Mira Ceti is a very good amplifier at a very good price."

Stuart Smith, Hifi Pig, August 2019

"An excellent and very quiet amplifier, it is firmly recommended."

David Neice, Wall of Sound, April 2019

To find a dealer and learn more visit **bluebirdmusic.com**



brightness, and raw presence increased, as did the intensity of reverb on Miles Davis recordings, he concluded. (Vol.44 Nos.5 & 11 WWW)

TAVISH DESIGN ADAGIO: $2290 ★

Among the handmade electronics offered by Westchester County, New York–based Tavish Design is the Adagio phono preamp, a two-box design with audio circuitry in one enclosure and a power supply in the other. The Adagio's gain and EQ circuitry—the latter a mix of active and passive—is implemented with a total of six small-signal tubes, while power-supply rectification and regulation are solid state. Switch-selectable inputs for moving magnet and moving coil cartridges add to the product's flexibility, as do separate six-position rotary switches for adjusting load resistance and capacitance. MM inputs offer 44dB of gain, MC inputs 64dB, the extra 20dB provided by a stereo pair of Jensen step-up transformers. AD found the Adagio's MM circuit to be "beautifully, prettily clear, in a pleasantly liquid sort of way," with "exceptional" detail and openness. The MC circuitry was also impressive, especially with a Shindo-rebuilt Ortofon SPU cartridge, although the Jensen transformers appeared not to provide the same sense of drama, force, and bass weight as (far more expensive) outboard transformers. Still, as AD observed, "the comparatively inexpensive Tavish Adagio punched above its weight." In his Follow-Up in the March 2018 *Stereophile*, HR wrote that the Adagio is "a cool, quiet, neutral-sounding phono preamplifier, and it's a joy to use: I know of no better for under $3000." Compared with the EAR Phono Classic with a favorite John Lee Hooker LP, HR described the Tavish as reproducing the room Hooker was playing in as "much bigger and emptier," adding that the window he was gazing through "seemed squeakier-clean than it did with the Phono Classic." (Vol.39 No.6, Vol.41 No.3, Vol.45 No.3 WWW)

DELETIONS

Musical Surroundings Nova III, discontinued. Channel D Lino C 2.0, Consolidated Audio "Monster Can", Haniwa HCVC01, van den Hul The Grail SE+, not reviewed in a long time.

DISC & FILE PLAYERS

A+

ANTIPODES K50: $19,000

The made-in-New Zealand K50 works with Roon as both server and player, Roon as a server with Squeezelite or HQ Player as the player, or Squeeze as a server and Squeezelite as the player. It offers Ethernet, USB, I²S, AES3, and S/PDIF outputs, though the manufacturer doesn't recommend using USB. JVS found that the Squeeze server and Squeezelite apps were not as user-friendly as Roon, but using them to transmit the audio data via single AES3 to the dCS Rossini DAC "delivered the most transparent, detailed, color-saturated, vivid, midrange- and bass-rich sound of all options available to me." He also noted that playing files stored on the K50's optional SSD (sizes up to 24TB are available) sounded "a mite better—the extra transparency was noticeable"—than playing the same files sourced from his NAS, or from Tidal and Qobuz. "Class A+ all the way," he concluded. Now comes with updated power supply. (Vol.44 No.10 WWW)

ANTIPODES OLADRA SERVER/STREAMER: $29,000

This expensive server/streamer/reclocker from New Zealand is designed for precise clocking, low noise, and high bandwidth. The Oladra can serve as a Roon Core and can be operated with Roon or with another player app like HQPlayer, MPD with MinimServer, or "Squeeze," Antipodes' own, customized version of the Logitech Media Server. The Oladra can access audio files stored remotely on a NAS and stream music from Qobuz, Tidal, and other streaming services. Users can also add up to 24TB of internal storage—Antipodes recommends Samsung PM893 cards—by sliding up to three cards into the storage slots on the rear panel. In order of decreasing sound quality (according to Antipodes), data outputs are I²S on HDMI or RJ45, AES3, S/PDIF (BNC and RCA), and USB 2. There is also "Direct Stream Ethernet," when the data emerges direct from the Server engine, out to a streaming DAC, bypassing the Player and Reclocker. Using a dCS Vivaldi Apex DAC (which doesn't have an I²S input), JVS found that music sounded best when he used Squeeze as both server and player and AES3 or S/PDIF (BNC) for the Oladra's output. Switching outputs from AES3 to USB, which bypasses the Oladra's reclocker, he noted that the sound wasn't quite as warm, color-saturated, or transparent. Overall, Antipodes Audio's top-line Oladra "is among the finest-sounding music servers I've had in my system," he concluded. On Paul Miller's testbench, the Oladra's output produced significantly less jitter than his desktop PC driving USB-connected AudioQuest DragonFly and iFi Audio NEO iDSD DACs, but offered little improvement with Mytek Brooklyn and dCS Vivaldi One Apex DACs. (Vol.46 No.7 WWW)

BURMESTER MUSICCENTER 151 MK2: $27,500

The 151 MK2 is a music server/network streamer with an internal DAC, a 2TB internal SSD, and a volume control. Operations are controlled with an iPad/iPhone app via Wi-Fi. There are analog inputs, and files can be played from USB sticks and external drives, or NAS drives; internet radio and music can be streamed from Tidal, Qobuz, and Idagio via Ethernet or Wi-Fi; and a CD drive allows silver discs both to be played and to be ripped to the internal SSD. The Musiccenter's DAC automatically upsamples/resamples lower-rez music to 24/96 or 24/192 and DSD up to DSD256 and DXD to 24/192 or 24/96. JVS enjoyed his time with the Burmester, concluding that "Music lovers who retain their love for silver discs will find them sounding even better when ripped to the unit's 2TB SSD, and those accustomed to file playback and streaming will find the Musiccenter's multifunction, multipurpose excellence a one-stop avenue to bliss. Through the 151 MK2 Musiccenter, music sings supreme." JA found that the CD transport offered superb error correction/concealment, which he felt was appropriate for ripping CDs. He concluded that the Burmester 151's performance on the test bench indicated excellent audio engineering in both the digital and analog domains. "It gets a clean bill of health from this measurer." (Vol.45 No.5 WWW)

CH PRECISION D1.5 SACD/CD PLAYER/TRANSPORT: FROM $41,000; AS REVIEWED $46,000

Base price is for the SACD/CD transport, which has TosLink, AES3, and CH's proprietary high-rez CH Link HD; two MQA-capable mono DAC cards add $5000. Control is via two coaxial knobs on the front panel or with an app for Android devices. When it's used as a player, all data are upsampled to DXD (24/384), and the analog output is processed with a reconstruction filter optimized for the time domain. Playing CDs, JCA reported that low frequencies had "seismic weight" and that stereo imaging precision and soundstage depth were excellent. He also noticed how good the D1.5 sounded at low volume. With the MQA-CD of Patricia Barber's *Clique*, JCA wrote that Barber's voice had a lovely, creamy texture, though as the music got louder, he detected some congestion. In level-matched comparisons of the SACD version of this album, he didn't hear as much creaminess on the vocals, though the presentation was not congested at high levels. JCA concluded that after several months with the D1.5 he never got bored; the music kept surprising him. In the test lab, JA found that with CD data this filter rolled-off frequencies above 15kHz because the review sample's firmware had selected an incorrect filter; JCA updated the firmware and reported on the behavior with the correct filter in the May 2022 issue. He wrote that with the new firmware, the transformation in the sound of the D1.5, when playing CDs, was qualitative. It "wasn't necessarily—wasn't immediately—a giant leap forward in absolute sonic quality. It was, rather, simply a major change in sonic character." Other than the frequency response with CDs now extending to –3dB at 20kHz, the primary measurable difference was the change from a relatively long, minimum-phase impulse response to an extremely short impulse response. (Vol.45 Nos.3 & 5 WWW)

DCS ROSSINI SACD TRANSPORT: $26,500 ★

Unlike the earlier Rossini Player, which only played CDs, the Rossini Transport uses a new mechanism from Denon that plays both SACDs and CDs. The Transport outputs audio data on twin AES/EBU links, to allow it to send native DSD data and CD data upsampled to DXD, DSD, or double DSD (these both encrypted) to a dCS DAC. JA used the Transport with a Rossini DAC and was mightily impressed by what he heard. He consistently preferred the sound of SACDs played on the Transport compared with the same data sent to the Rossini DAC over his network, feeling that the low frequencies sounded more robust. "Once these words have been laid out on the pages of this issue," JA concluded, "I'll have to return [the Rossini Transport] to dCS. It breaks my heart." In use by JVS. (Vol.42 No.5 WWW)

EXASOUND DELTA SERVER MARK II: $2999 PLUS COST OF INTERNAL STORAGE AND LCD DISPLAY

Powered by an Intel i9-9900, this passively cooled music server runs exaSound's custom Linux operating system and a Roon Core, these stored on an SSD. An optional second SSD can be used for file storage. KR found the Delta to be more powerful than either a Roon Nucleus+ or a Baetis X4i, better coping with demanding DSP operations with multichannel and DSD files. "The Delta Music Server is the most capable server I have used, but it is far from the most expensive," he concluded, adding that the Delta is, in his opinion, what a Roon server should be. (Vol.44 No.4 WWW)

GRIMM MU1 MUSIC STREAMER: $12,500 PLUS COST OF INTERNAL STORAGE (EX VAT)

The MU1 is based on an Intel twin-core i3 processor running a Linux-based operating system. It incorporates a Roon Core and is fully integrated with the Roon Server app. It can be controlled by rotating and pressing a top-mounted, bronze-colored disc. (A high-precision digital volume control and other functions can be selected with this control.) While its Ethernet and USB ports can be used to send audio data from the Intel board to a DAC, the MU1 upsamples PCM data and downsamples DSD data sourced from its AES/EBU outputs, using what Grimm calls a "Pure Nyquist" decimation filter hosted in a Xilinx FPGA. (Measurement revealed that this is an ultra–fast-rolloff filter, reaching full stop-band attenuation at half the original PCM data's sample rate.) JA very much preferred the sound from the AES/EBU outputs, finding that the upsampling of CD-resolution data reduced congestion, added depth to the soundstage, and increased the separation among acoustic objects in that soundstage. JA recommended the MU1 highly as a streamer, writing that it can also operate as a network bridge with legacy D/A processors that don't have USB or Ethernet ports, and that it can be used as the sole source component with active speakers that have digital inputs. A 1TB SSD adds $225; 2TB SSD adds $430; 4TB SSD adds $805. An FM tuner function is promised. (Vol.44 No.3 WWW)

INNUOS STATEMENT NG: $18,900 AND UP DEPENDING ON STORAGE

JVS reviewed the original two-box Statement from Portuguese company Innuos in Vol.43 No.4. This server included a drive for ripping CDs and featured eight separate power supplies: three for each voltage of the motherboard; one for the CPU; one for the SSD storage device; one for the Ethernet Reclocker board; one for the USB Reclocker Board; and one for the USB clock. Comparing the Statement with a Nucleus+ using USB connections to his dCS Rossini D/A processor, JVS found that the Innuos server's treble seemed slightly rounded, the presentation "a touch warmer. ... The Statement warmed the piano and smoothed out the top in a manner that some would call analoglike or tubelike." JVS concluded that "In its flagship Statement music server, Innuos has created a transparent instrument that scores big in soundstage size and depth, dynamics, and bass reach." In a Follow-Up, JA found almost no measurable differences in a PS Audio DirectStream's analog output whether it received data from the Nucleus+ or Statement via USB or from the Nucleus+ via Ethernet. In a series of listening tests, JA found differences between the Innuos and Roon servers difficult to hear with many recordings but ultimately agreed with JVS that via USB connections, the Nucleus's low frequencies were outclassed by the Statement's. Not by much, I admit,"

he wrote, "but enough to matter; ... the bass line had a touch more drive with Statement sending data to the PS Audio." The Statement was replaced by the Statement NG, which featured the upgraded Next-Gen linear power supply and the latest InnuOS software. JVS wrote that the NG sounded superior both to the original Statement and to the current Roon Nucleus+. He also noted that the latest InnuOS Web app offered major advances over earlier versions. (Statement, Vol.43 Nos.4 & 5 WWW; Statement NG, Vol.46 No.11 WWW)

JAY'S AUDIO CDT3 MK3: $4998

The massively constructed CDT3 MK3 CD transport—it weighs 50lb—uses Philips's top-of-the-line CD-Pro2LF drive. Although this was discontinued in 2013, Jay's says they have stockpiled a substantial inventory of these drives and is confident they have plenty on hand to cover potential future service issues. Digital outputs are AES3 (XLR), S/PDIF (BNC and RCA), and I^2S on RJ45 and HDMI. (The latter follows the connection protocol established by PS Audio.) Using the I^2S over HDMI output with a Denafrips Terminator II D/A converter, MT felt that the CDT3 offered a clear improvement in resolution resulting in a better defined and more spacious soundstage compared with his Audio Note transport. The Jay's transport features switchable 4× oversampling. MT found that this enhanced the presentation of the soundstage and fleshed out the harmonic tonal colors of double bass and piano. "Jay's upsampler seems to offer a genuine improvement," he concluded, adding that the CDT3-MK3 is "a truly exceptional way to play your CD collection." In the test lab, JA found that the CDT3 offered excellent error correction and low transmitted jitter. Peculiarly, however, while the oversampled outputs featured accurate 16-bit data, the non-oversampled outputs were limited to 15-bit resolution due to the presence of LSB-level random noise. (It turned out to be due to the upsampling chip dithering its output, even when set not to upsample.) In his own audition, JA found that the Jay's upsampled output worked well with the Mojo Mystique SE NOS DAC. (Vol.46 No.5 WWW)

MBL NOBLE LINE N31: $18,500; OPTIONAL ROON READY MODULE IS $1480 ★

Designed to play "Red Book" CDs and, via its USB and other digital inputs, music files up to 24/192 and DSD64 (DoP), the Noble Line N31 is less a digital-audio Swiss Army knife than a luxuriantly attractive, 40lb monument to the idea of perfecting the playback of audiophilia's best-loved digital formats. Built around the ESS Sabre 9018 DAC, the N31 offers a full-color 5" TFT display—the MBL player recognizes CD text and displays title information—and features an SD card slot for firmware updates, a choice of three playback filters, and a remote handset that lights up before the person reaching for it has even touched it. Listening to CDs and even a CD-R through the N13, JA was impressed by the "sheer tangibility" of the MBL's sound, noting that, with its Min filter engaged, the N31 "gracefully reproduced" one "overcooked" track, and that the differences among its three filters were "greater in degree than with other DACs." Through the MBL's USB inputs, even iPhones and iPads, their own volume controls disarmed by the MBL's USB input, offered "excellent" sound quality. JA originally raised an eyebrow at the lack of a network port and the fact that the player's filters can't be selected via the remote handset, but both of these issues have been addressed in 2020 production with the optional Roon Ready Input Module. As with USB, the networked MBL rendered music with an excellent sense of overall drive and low-frequency impact, JA found, with low-level recorded detail well-resolved. JA concluded his original review by saying that digital sound "doesn't get any better" than what he heard from the N31. He also noted that the MBL offered 21 bits of resolution—the current state of the art of digital audio. This prompted JA the measurer to agree with JA the listener: "Digital audio engineering doesn't get any better." Price is with factory-installed Roon Ready network module. Price without module is $15,400. (Vol.41 No.2, Vol.43 No.12 WWW)

PINK FAUN 2.16X MUSIC STREAMER: $25,000 AS REVIEWED, WITH S/PDIF AND USB I/O CARDS

Storage for music files is optional with this expensive, dead-silent streamer from Holland, and it has no built-in DAC. As a streamer, though, it's an all-out effort. "Its huge size and weight and [custom] Lamborghini Orange front panel shout that out loud," KR wrote. The CPU on the motherboard is liquid-cooled by copper tubes coupling it to a large heatsink on one side of the chassis. The heatsink on the other side cools five large power transistors. Proprietary, sealed Oven Controlled Crystal (Xtal) Oscillators (OCXOs), available in standard or Ultra versions, are used for the system clock, the motherboard, and each of the I/O cards. The "headless" Pink Faun is controlled by the Roon app, which can run on a tablet or laptop. KR was impressed by this streamer's performance with both stereo and multichannel files, writing that it was sufficiently transparent to permit him to hear differences among DACs and reconstruction filters. "The Pink Faun 2.16x Streamer is, sonically, as perfect a stereo source component as I have used," he concluded. (Vol.43 No.12 WWW)

ROON LABS NUCLEUS+: $2559 WITHOUT AUDIO FILE STORAGE ★

The first hardware product from software specialist Roon Labs, the Nucleus+ combines an Intel i7 processor/NUC board with 8GB of RAM and a 64GB SSD solid state drive, the latter hosting the Linux-based Roon Optimized Core Kit (ROCK) operating system and Roon server software. Also provided are a single gigabit Ethernet port, USB 3.0 ports for conversing with external drives and/or USB DACs, a multichannel-friendly HDMI port, a Thunderbolt 3 port, and an internal bay for an HDD or SSD drive. Use of the Nucleus+ requires a Roon subscription ($9.99/month, $699.99/lifetime). When JA tried the Nucleus+, he found he had "nothing specific to say about the sound other than that it was always excellent." KR described his efforts at pressing the Nucleus+ into service as a multichannel server. His results

"WITH DUET, THE SYSTEM PRODUCED QUIETER BACKGROUNDS. IT ALSO DID NOT LIMIT DYNAMICS"

MICHAEL FREMER, STEREOPHILE

About Duet:
Clarus designed the Duet Power Block with the capability to support the demands of mono block amplifiers, powered subwoofers, and powered speakers which are typically connected directly into a wall outlet. Duets two high-current outlets deliver clean AC power filtered by the sophisticated Clarus High-Current Core (HC-Core)—providing full power without restricting dynamics.

About Clarus:
Clarus products are designed for audiophiles and music enthusiasts who are seeking audio cables and electronics that are tonally neutral. Clarus preserves the original timbre and nuances of music while unveiling every subtle detail for an immersive listening experience. Leveraging the talents of celebrated audio designer Jay Victor, the Clarus Collection features application specific designs of Analog and Digital Interconnects, Speaker and Power Cables, Power Conditioners and DACs. All Clarus Cable products are custom-crafted and hand-made in Orlando, Florida, USA.

LEARN MORE

CLARUS™
CRYSTAL CLEAR SOUND

www.claruscable.com - info@claruscable.com

were encouraging, although DSP execution was a mixed bag, depending on sample rate, the operation desired, and the strain they put on processing power. Upsampling in particular "seemed to drain the tank." In a 2020 follow-up, JA found that the sonic differences between the Nucleus+ and the considerably more expensive Innuos Statement server were small. (Vol.41 No.8, Vol.42 No.3, Vol.43 Nos.4 & 5 WWW)

TOTALDAC D1-STREAMER-SUBLIME MUSIC SERVER: €9100

This French streamer/server offers a network input and digital outputs and functions as a Roon endpoint. It tops out at 24/192, and it passes DSD via DoP. AH used the d1-streamer sublime to audition Totaldac's d1-unity—see Digital Processors. When he replaced it with his usual combination of Sonore ultraRendu and Denafrips Iris digital-to-digital converter, the sound was possibly a hair more forceful but also audibly less refined and purposeful. "The meaning of the music was less obvious, and everything sounded just a bit more mechanical," he wrote. (Vol.46 No.12 WWW)

A

HEGEL VIKING: $5000

This slot-loading player uses the well-regarded AKM-4493SEQ DAC chip and doesn't have any digital inputs. It just plays CDs. It does, however, have a coaxial S/PDIF digital output, which JA found featured very low jitter. HR played CDs and was impressed by what he heard. "CDs exhibited more crystallized forms than similar recordings played back from Tidal at CD resolution. The Viking projected images with more-distinct outlines than Tidal's 16/44.1 tracks. Those more-distinct forms felt more relaxed and less edge-sharpened than similar recordings of the same program at higher sampling rates on Qobuz," he wrote. HR concluded that the Viking "presented every CD with enough verve, transparency, and natural detail to make each disc sound distinctly different, which shows that the player's sound was not swamping the disc's sound. This ability to disappear and put the character and vital energies of recordings up front made the Viking exciting to use, and that is my highest compliment." (Vol.46 No.12 WWW)

MELCO N50 DIGITAL MUSIC LIBRARY: $5499 WITH 3.84TB STORAGE

The slim, Roon Ready N50 includes internal storage and has two Ethernet ports and four USB 3.0 ports, one of which is optimized for sending audio data to a USB-connected DAC. KR found that the front-panel controls and the small alphanumeric display worked fine for setup and basic music selection, but quickly realized that the Melco Music App running on an iPad—there's no Android support—was essential for selecting music and making the Melco enjoyable to use. Once the N50 was connected to KR's local network, the app's "Library" choices included every audio file on every device on his LAN. He summed up that the Melco "lets you engage with the music and does nothing to intrude on that engagement. That's its role, and it performs it well. Crucially, it does nothing to degrade sound quality. Especially when playing from its internal storage, the N50 is responsive." Best thought of, JCA says, as a top-quality, audiophile network-attached storage device with music-server features. (Vol.45 No.6 WWW)

MYTEK BROOKLYN BRIDGE II ROON CORE: $4995 AND UP DEPENDING ON STORAGE

The small Brooklyn Bridge II streaming D/A preamplifier offers digital and analog inputs, including an MC/MM phono input, balanced and single-ended analog and headphone outputs, and incorporates a Roon core. All its owner needs to add to create a complete system are some file storage, a power amplifier, and a pair of loudspeakers. TF found the touchscreen too small for easy use, instead controlling the BBII functions with the Roon app. (Roon identified the Brooklyn Bridge II as a full MQA decoder and renderer.) He found that the single-ended outputs picked up some hash from his Mesh Wi-Fi network, though JCA and JA didn't encounter any Wi-Fi–related problems in their own systems. In the test lab, JA noted that the Mytek runs very hot. The DAC circuit offers between 18 and 19 bits' worth of resolution, he found, and commented that the analog output stage coped well with punishing loads. He was less impressed with the phono input, finding that even in MM mode, the noise-floor suffered from supply-related spuriae, these presumably radiated from the power transformer packed into the small chassis. The levels of these spuriae were unacceptably high in MC mode, decided JA—who however only heard broadband noise in MM mode. TF was also bothered by the Mytek's phono input, finding that even in MM mode, "there was enough hiss and hum to be audible at the listening position, through all outputs: balanced, unbalanced, headphone." Hum aside, however, he wrote that LPs "sounded vivid, the tonal balance was right, there was plenty of headroom." Playing back files from his NAS drive, TF wrote that "the BBII sounds damn good ... Its character was uncolored and revealing ... the BBII is a fine DAC, in the top tier of its price range." (Vol.46 No.9 WWW)

ROTEL DIAMOND SERIES DT-6000 CD TRANSPORT/DAC: $2299.99

As well as playing CDs, the DT-6000 has three digital inputs (coaxial and optical, these accepting PCM data up to 24/192), and a Class 2.0 USB input that will accept PCM data up to 32/384, DSD data, and MQA data up to 24/384. However, despite being called a "Transport," the DT-6000 doesn't have a digital output. It uses the well-regarded ESS9028PRO DAC chip. HR wrote that with CD data his more expensive R-2R DACs "did not better the DT-6000's beat-keeping and boogie-stomping." Streaming well-recorded piano, the Rotel offered "clean, fast, well-sculpted authority," HR decided, and while he felt streaming was clearer, smoother, and more open than CD playback, contrasts weren't as sharp, the presentation less physical. "Music from CDs sounded denser and more fortified than music from Qobuz and Tidal," he concluded. (In the test lab, JA found that while jitter was nonexistent with CD playback, it was high in level with streaming audio via USB. He also noted that the Rotel's error correction playing CDs was superb.) Overall, HR described the DT-6000 as a "well-built, great-sounding, reasonably priced CD player." (Vol.46 Nos.2 & 3 WWW)

B

CYRUS CDI-XR: $3300

KM found that this diminutive, well-finished CD player from the UK offered greater weight and punch than the same music when streamed via a Denfrips Ares II D/A processor. However, on some recordings he wrote, "this manifested as tonal thickness and a loss of transparency. Streaming tended to excel at treble, detail, and upper register air but often gave up some presence and weight." The CDi-XR is "a good CD player and a solid value," he concluded. In the test lab, JA found that the Cyrus inverted absolute polarity and that its error correction was not as good as that of the best players or transports he has measured in recent years. (Vol.45 No.4 WWW)

DELETIONS

Bryston BDP-3 (LG no longer reviews), T+A MP 3100 HD SACD/CD player, Wolf Systems Alpha 3 SX server, not reviewed in a long time.

DIGITAL PROCESSORS

A+

BEL CANTO E1X: $6800

The Roon Ready e1X DAC/Control Preamplifier offers AES3, coaxial and optical S/PDIF, digital inputs, and USB and UPnP/DLNA-compatible Ethernet ports. (The USB and Ethernet ports support MQA-encoded data and DSD data in the DoP format.) There are also line-level and MC/MM phono analog inputs, these converted to digital so that they can be adjusted with the DSP-domain Tilt, Bass EQ, and volume controls. The e1X features line outputs, a headphone output—the Tilt and BassEQ controls are not operative with this output—and a subwoofer output. Bel Canto's free Seek app (iOS only) allows the e1X to stream audio from Qobuz, Tidal, Spotify, and vTuner internet radio and to play files from DropBox, OneDrive, and iCloud folders, or from a drive plugged into the DAC's USB-A port. Like all of Bel Canto's digital products the e1X uses a Texas Instruments PCM1792A DAC chip, which may be a 20-year-old design, but, as JA's measurements revealed, is still capable of very high resolution and low linearity error. In his critical listening sessions, JA found it difficult to ascribe an identifiable tonal character to the Bel Canto. He noted that low frequencies were well-defined with good weight, high frequencies were neither exaggerated nor rolled off, and the midrange sounded natural, but the thing that did strike him was how clear a view into recorded soundstages he was experiencing. "Transparency to the source combined with low-frequency articulation and weight was the e1X DAC's calling card," he concluded about the e1X's performance as a DAC. JA found that even though the line and phono analog inputs offered excellent measured performance, the presentation was slightly darker with analog sources, "as if the analog input had placed a finely woven scrim between me and the recorded soundstages." The Tilt and Bass EQ controls proved useful in minimizing this character. (Vol.45 Nos.10 & 11 WWW)

BENCHMARK DAC3 HGC: $2399 (INCLUDES REMOTE) $$$ ★

BENCHMARK DAC3 B: $1899 $$$

Benchmark's DAC3 HGC—the last three letters designate this as the audiophile version, with a headphone amp and two analog inputs—supports files up to 24/192 and DSD64, the latter as DoP (via USB). Bearing in mind the manufacturer's suggestion that there should be no audible difference between their DAC1 and DAC3, JCA wrote, "In fact, I found the sounds of the two DACs quite different. The DAC1 was brighter; ... the DAC3 was all about depths, in several respects ... I heard deeper into the music." The concise conclusion to JA's Measurements sidebar: "All I can say is 'Wow!'" In a Follow-Up, JCA wrote of using the Benchmark processor with the same company's AHB2 power amp—a combination of high source output voltage and modest amplifier gain that he describes as "optimal for minimizing noise and distortion"—and reported hearing "richer and more interesting" reproduction of very subtle details. The DAC3 B is a stripped-down, lower-priced version of the DAC3 HGC, which omits the headphone amplifier, balanced and unbalanced analog inputs, volume, mute, and polarity controls, and the remote control. It has a fixed output level of 12.3V, which is about 10dB too high to be optimal with a typical domestic audio system. The DAC3 B retains the HGC's high-resolution ES9028PRO DAC chips, and when he auditioned it using the USB input JA found it offered a fatigue-free, musically involving wealth of recorded detail. "An audiophile bargain," he concluded. (Vol.40 No.11, Vol.41 No.10; HGC version WWW; Vol.46 No.3, B version WWW)

BRICASTI M1SE: $10,000 ★

With first-class fit'n'finish, the dual-mono M1 DAC offers five digital inputs (USB, S/PDIF, AES3, BNC, optical—an Ethernet module is available), a volume control, measures a rack-friendly 17" W × 2" H × 12" D, and weighs 12lb. "The best digital playback I have heard," concluded JM of the original version, who also wrote that "the fact that Bricasti's M1 can play DSD and DXD files is less important than the fact that its playback of plain old 'Red Book' 16-bit/44.1kHz audio is so compelling that I, for one, don't feel shortchanged when a good recording is not 'high-resolution.'" JA also praised the M1's state-of-the-art measured behavior as well as its sound quality. SM auditioned the current Special Edition (SE) version, with the MDx upgrade. (The factory-installed MDx upgrade from earlier M1s costs $1000.) The SE adds point-to-point wiring, capacitor upgrades, and a variety of new software features. It also includes Stillpoints feet, which, with their vibration-absorbing abilities, are said to provide "a more transparent sonic presentation." The MDx upgrade to the digital circuit includes improved clocking, a later-generation Analog Devices DSP chip, a choice of 15 upsampled reconstruction filters—Minimum Phase filter 2 was SM's favorite—and allows the USB input to operate at higher sample rates. SM noted that he "heard some subtle but important differences from what I had experienced prior to the upgrade," including an increased sense of "details

Bowers & Wilkins

Excellence. Evolved.

The new 800 Series Diamond.

This is not just another speaker range. This is our benchmark, our icon; the most advanced range of loudspeakers we know how to make. For us,the 800 Series Diamond is everything we know, and everything we are. Listen, and you'll see.

bowerswilkins.com

of timbre and soundstage exactitude but without any increased brittleness or etching. Bass seemed firmer, and the clarity of musical transients improved." (Vol.34 No.8, Vol.35 Nos. 2, 3, & 9, Vol.36 No.7, Vol.37 No.12, original version; Vol.44 No.7 WWW)

CH PRECISION C1.2 DAC/CONTROLLER: FROM $36,000; AS REVIEWED $43,500

In standard form, priced at $36,000, this modular Swiss processor offers AES3 and coaxial and optical S/PDIF digital inputs. Optional inputs are asynchronous USB ($3000), Ethernet ($6000), and an analog input board, with one balanced and one unbalanced input ($2500). An optional clock synchronization board costs $1500, while it can be used with an external power supply ($20,500) and clock ($24,500). The C1.2 incorporates a volume control and uses four 24-bit PCM1704 chips per channel. With the exception of the USB input, it upsamples the input data to 705.6kHz or 768kHz. It will also accept MQA data, and DSD data via DoP. JCA wrote that with classical recordings, what he heard with the C1.2 "is what acoustical instruments sound like, precisely rendered in space. The sense of that space, and of the sounds flowing through it, is expansive and relaxed; ... it simply sounded right." On the test bench, its measurements indicated that the C1.2's reconstruction filter is a linear-phase type optimized for time-domain performance. Noise, jitter, and distortion were extremely low and resolution was high, between 19 and 20 bits. However, it appeared that the LSB with 24-bit data was being truncated. Nevertheless, the C1.2, both with and without its external clock and power supply, produced the best sound JCA had heard from a digital source. (Vol.46 No.2 WWW)

DCS BARTÓK APEX: $20,950, $22,950 WITH HEADPHONE AMP

The result of extensive changes to dCS's Ring DAC hardware and an improved power supply, among other changes, the APEX version of HR's daily-driver D/A headphone amplifier produced musical sounds that were more fantastically appealing than the ones generated by the original Bartók or any other DAC he'd reviewed. Using the dCS Mosaic app, DXD upsampling, Filter 3, and Map 1, HE wrote that "the Bartók APEX has a wet feel to its clarity. The original leaned toward transistor-dry ... [The APEX] mixed an R-2R naturalness ... with a muscular, free-flowing dynamic that kept my attention focused on musical content." (Vol.46 No.8 WWW)

DCS ROSSINI APEX: $32,800 ★

The successor to the English company's well-regarded Rossini, the APEX edition is based on a reconfigured Ring DAC circuit board with an all-new analog output stage. (Earlier Rossinis can be upgraded for $9000.) Using his preferred settings—Filter 5 for Red Book, F3 for 24/88.2 up to 24/192, F6 for higher PCM resolutions, F1DSD for DSD, and M1 for MQA, DXD upsampling, and Ring DAC Map 1—JVS compared the APEX with the earlier 2.0 version with an album of Ravel piano concertos and immediately noted that with the APEX there was "a deeper silence between notes, a greater sense of grace, flow, and warmth from string instruments, and a beautiful finish to the sound that epitomized fin de siècle elegance." With a Talk Talk track, he felt that the Rossini 2.0 "sounded thinner than the APEX, with less substance. Everything seemed diminished and less involving. There was less there." JVS concluded that the Rossini APEX DAC was "more than another upgrade; it's a major advance in digital sound reproduction, one that elevates an already excellent DAC to a much higher level." While noting that the six choices of reconstruction filter behaved identically to those of the earlier Rossini and dCS Vivaldi processors, JA commented that overall, "the dCS Rossini APEX's measured performance was beyond reproach." (Vol.40 No.1, Vol.41 No.5, Vol.42 No.5, original version; Vol.42 No.6, 2.0 version; Vol.45 No.10 APEX version WWW)

DCS VIVALDI APEX: $46,500
DCS VIVALDI MASTER CLOCK: $21,000
DCS VIVALDI UPSAMPLER: $27,000

The result of the same painstaking development process that produced the dCS Rossini APEX, the Vivaldi APEX features the same analog board and the same choice of coefficient mapping for its Ring DAC and reconstruction filters as the Rossini. However, its larger chassis allows for allows greater flexibility in transformer positioning, component isolation, and what can be done with I/O and the control board. According to dCS, "Vivaldi's hardware represents a much more ambitious approach to D/A conversion than the Rossini's digital processing platform." As the Vivaldi APEX doesn't have the upsampling options offered by the single-box Rossini, JVS auditioned the Vivaldi APEX with the Vivaldi Upsampler Plus ($25,500 with Ethernet network port), as well as with the Vivaldi Master Clock ($19,500). Compared with the superb-sounding Rossini APEX and its matching Clock, JVS found the midrange richer and the highs a mite less bright. The Rossini APEX's depiction "seemed lighter and less substantial, with smaller images," he wrote. In the test lab, the Vivaldi APEX offered superb measured performance, with very high resolution and channel separation, and extremely low noise and jitter. JVS summed up his experience of the Vivaldi APEX by writing "It is rare, in a home listening room, to experience anew the full impact of great orchestral music heard in a concert hall. But the Vivaldi APEX DAC, Vivaldi Upsampler Plus, and Vivaldi Master Clock together have made that possible, repeatedly." Upgrades for the earlier Vivaldi DAC and Vivaldi One cost $9000. (Vol.46 No.3 WWW)

EMM LABS DV2: $30,000 ★

EMM Labs' newest product is the first D/A processor to make use of the company's new VControl, a high-resolution volume-control system. Of its seven digital inputs, the DV2's USB Type B input is its most versatile, enabling PCM conversion up to DXD, DSD up to DSD128, and full MQA unfolding. Also provided are two coaxial (RCA) S/PDIF inputs, two optical (TosLink) S/PDIF inputs, one AES/EBU (XLR) input, and one proprietary EMM Optilink for SACD and CD playback. In his listening tests, JVS tried using the DV2 in a variety of configurations; he noted that by the time he'd done so, "it had become clear that the DV2 is one of the finest-sounding DACs with volume control that I've ever heard in my reference system." Indeed, Jason praised the DV2 for delivering, compared to other processors he's enjoyed in that setting, "the smoothest, most naturally warm, most consistently engaging and non-fatiguing reproduction of music." Writing from his test bench, JA noted that the DV2 offers resolution that's "close to the state of the art." Check the EMM Labs website to see if your version needs the no-cost volume-control update. One of JVS's reference DACs. (Vol.42 No.3 WWW)

EXASOUND S88 MARK II: $7599

KR was impressed by this network-connected 8-channel D/A processor, writing that "the s88 sounded just right from the first notes, and that impression endured as I immersed myself in a wide range of music over several weeks. ....[I]n fact, it exceeds the performance of any DAC that I have used. I would describe its sound as transparent rather than detailed, dynamically responsive rather than lively, and honest in how it presents voices." On the test bench, the s88 offered a resolution of 21 bits, which is among the highest the magazine has found. The default reconstruction filter is a minimum-phase type and harmonic distortion, intermodulation distortion, and noise levels were all extremely low. KR concluded: "For some who are already committed to multichannel, the s88, with its superb DAC, convenient streaming and that oh-so-welcome volume control, may be the realization of their dreams. It is of mine." KR has since obtained the Mark II upgrade, which has no discernible effect on sonics. (Vol.44 No.4 WWW)

FERRUM WANDLA: $2795

This slim, MQA-capable D/A processor from Poland can be used with its line-wart supply or with Ferrum's HYPSOS external supply ($1195). Digital inputs include AES3; optical and electrical S/PDIF; USB-C (PCM up to 32/768, DSD up to DSD 256); and HDMI ARC. There is also a single-ended analog input as well as balanced and unbalanced analog outputs. The Wandla offers three of the reconstruction filters incorporated in its ESS Sabre ES-9038PRO DAC chip plus two "HQ" filters created for Ferrum by Signalyst, known for their work on the HQPlayer app. (HR preferred the default HQ Apodizing filter.) With the Wandla's standard supply, HR felt that "melodies felt inhibited, and there was a subtle but distinct metallic hardness that infused the body of every note. Reverb tails were shortened." Adding the HYPSOS supply set to 22V "made menu-surfing a pleasure," commented HR, adding that hardness was relieved. "Martha Argerich's *Winter Music* became supple and distinctly more three-dimensional with clear, vibrating open spaces between notes." He wished that this power supply upgrade was something every audiophile could experience. The improvement was not subtle, "and it leaves no doubt about how much a component's source of energy affects the flow, luster, and body of reproduced music." HR concluded that the Wandla-HYPSOS combo "is a thoroughly, wisely engineered converter that made me look forward to using it and made me smile every time I did. At its best with the HYPSOS, the Wandla danced in the same ballroom as DACs costing over $10,000." On the test bench, the Wandla performed supremely well with both analog and digital inputs, even without the HYPSOS supply. "It boasts very high resolution, very low distortion and noise, and a bombproof output stage," wrote JA. (Vol.47 No.2 WWW)

HOLOAUDIO MAY KTE (LEVEL 3): $5598 AS REVIEWED

This well-constructed, hot-running, R-2R ladder DAC–based, two-box processor costs $3798–$4998 depending on options. It offers seven digital inputs—two coaxial, one optical, an AES/EBU, a USB, and two I²S over HDMI—and balanced (XLR) and single-ended (RCA) analog outputs. The input stage uses op-amps, the output stage discrete transistors biased into class-A. It can be operated as a NOS (Non-OverSampling) DAC or in three different oversampling (OS) modes. (The DSD mode reduces the output level by 6dB.) When HR auditioned the top-of-the-line Level 3 version of the May in NOS mode, the very first album he played "sounded more fundamentally right than any digital reproduction I have experienced in my little bunker," he wrote. "Better than any DAC I know, the May recovers the natural pressure behind musical flow." He found that PCM oversampling added a harsh glare and muddled image specificity, and while the sound was clear with CD data and DSD oversampling, with a nice flow and fine musical textures, the bass was softer and soundstages less precisely drawn. "The May's true-to-life demeanor made recorded music seem infinite and beautiful," he concluded. JA was equally impressed by the transparency and neutrality of the May, though he found that the excellent soundstage depth and sense of musical "drive" in NOS mode had to be set against this mode's tendency to make pianos sound too "clangy." Piano in OS DSD mode remained clean and closer to the true sound of the instrument, he decided. In addition, densely scored climaxes "clogged up" a little in NOS mode while remaining clean in DSD mode. On the test bench, the May offered superb measured performance, including 22-bit resolution, greater even than that offered by the overperforming Weiss DAC502! (Vol.43 Nos.8 & 9 WWW)

MERGING+HAPI MKII: $8411 WITH 2 DA8P D/A CARDS

In its base configuration, this slim processor supports eight channels of input or output via AES3, ADAT, or stereo S/PDIF. Expansion slots allow up to two plugin cards to be added, each of which can support eight channels of D/A, A/D, or two-way A/D/A. KR auditioned the Hapi with the DA8P board, which provides eight balanced analog output channels on a DB-25 connector. There are also headphone outputs. As well as front-panel controls, the Hapi can be controlled by a local webpage. Multichannel data is sourced from the user's network using the RAVENNA/AES67 protocol. "It did not take symphonic power, multiple channels, or even a recent recording to demonstrate the Hapi's complete competence," wrote KR. He found differences between the Hapi and his reference exaSound s88 and Okto DAC8 Pro processors to be elusive in level-matched A/B comparisons, but he tended to choose the Hapi over the others due to his growing expectation of consistency and equanimity across the range of recordings that he played. "I was drawn to the Hapi MkII because of its support for 16 channels in high-resolution PCM and DSD and its high output voltage capability," he noted. Adding that he harbored the hope that it would sound as good

NOTHING BETWEEN YOU AND THE MUSIC

Introducing The New Weiss HELIOS Professional-Grade DAC

HELIOS is a no-compromise DAC that allows you to hear the same representation of the music that mastering engineers hear in the studio.

To achieve its exceptional performance, HELIOS uses an eight-channel 32-bit D/A converter chip, with four paralleled conversion channels per audio channel. All analog processing is done with Weiss's discrete operational amplifier modules, the Weiss OB2-BP – arguably the best audio operational amplifier currently available.

For ultra-stable clocking of the D/A converter, Helios also uses an internal high-precision/low jitter clock generator.

More than just a DAC, Helios also functions as a preamp and UPnP/Roon streamer and includes the same professional-grade DSP algorithms that were used to mix and master the original recordings.

The new HELIOS delivers another breathtaking leap forward in DAC technology. Audition it at your local Weiss dealer and prepare to be astounded.

WEISS

Scan to email us for a dealer near your city or visit bluebirdmusic.com

Bluebird MUSIC

the source for modern hi-fi

DISTRIBUTED IN US AND CANADA BY BLUEBIRD MUSIC LIMITED
TEL 416 638 8207 BLUEBIRDMUSIC.COM

as or better than what he already owned, "it has met all these expectations and enhanced the joy and satisfaction I get from my music system beyond my expectations." JA was equally impressed. "With its superbly high resolution, vanishingly low levels of noise and distortion, and superb jitter rejection, Merging's Hapi MkII offers state-of-the-digital-art measured performance," he wrote. (Vol.47 No.1 WWW)

MOLA MOLA TAMBAQUI: $13,500

This Bruno Putzeys–designed, Roon Ready D/A processor uses a proprietary digital filter/DAC stage and can be controlled with a smartphone app or an Apple Remote. No MQA capability, but the Tambaqui decodes DSD natively. Digital inputs include USB, TosLink and coaxial S/PDIF, AES3, Ethernet, and I²S over HDMI. Analog outputs are balanced on XLR and headphone on ¼" and four-pin XLR jacks, both with a volume control and a choice of maximum output level. HR loved what he heard, writing that "the Mola Mola's most conspicuous sonic trait was a bright, evenly illumined clarity"; he added that "Mola Mola's Tambaqui did not whisper—it declared loudly: 'See! The truth is more beautiful than you thought it would be!'" In his follow-up review, KM agreed with HR: "The Mola Mola Tambaqui DAC is easily the finest digital-to-analog converter I've heard in my reference system, provoking fresh epiphanies with well-known music. Its beautiful remote control and its ability to function as a preamp adds more value to this expensive machine." JA found that the Tambaqui offered almost 22 bits of resolution, one of the highest he had encountered, and declared that his testing revealed state-of-the-digital-art measured performance. (Vol.44 No.12, Vol.45 Nos.1 & 6 WWW)

OKTO DAC8 STEREO: €1289 (€1378 WITH STREAMING OPTION) $$$

Almost identical to the multichannel dac8 PRO in appearance, the dac8 Stereo features a ¼" headphone jack, two pairs of balanced-output XLR jacks, and a plethora of inputs: one AES/EBU (XLR); four S/PDIF (two coaxial RCA, two TosLink optical); USB Type B; two USB Type A; and Ethernet (RJ45). The ESS Sabre DAC chips offer a choice of seven reconstruction filters for PCM data and two ultrasonic low-pass filters for DSD data. Despite its affordable price, the dac8 Stereo was one of the highest-resolution D/A processors JA had experienced—21 bits, rivaled only by the HoloAudio May, the MBL N31, the Weiss DAC502, and the Mola Mola Tambaqui. The USB input offers lower jitter than the S/PDIF and AES/EBU inputs, he found, and so is preferred. The dac8 Stereo "opened a transparent window into recorded soundstages, unaccompanied by any feeling of fatigue or undue tonal emphasis," JA wrote, adding that he continued to be impressed throughout his auditioning by the Okto processor's combination of upper-bass weight and leading-edge definition. "Not only does the Okto dac8 Stereo offer superb sound quality and state-of-the-art measured performance; its price is a fraction of what you'd pay for competing products," he concluded. Listed price includes a Raspberry Pi 4–based streaming module (€89 when bought separately) and an Apple remote control (€25 when bought separately). (Vol.44 No.2 WWW)

STORMAUDIO ISP EVO IMMERSIVE SOUND PREAMP/PROCESSOR: $17,999–$21,999 DEPENDING ON CHANNEL COUNT AND DIGITAL FORMAT

While this multichannel preamp/processor offers a few "legacy" analog inputs, it is for the most part all-digital, input to output, including network connections on both ends. Since it is "AoIP (AES67/Ravenna) Dante Compatible," it can communicate directly to network-enabled loudspeakers, DACs, amplifiers, etc. KR used Merging's MAD ASIO driver package installed on his PC server and was then able to send the Evo's output to the network input of his Ravenna-compliant Hapi II multichannel DAC. The central graphical display on the front panel indicates input choice, source format, overall volume, and an active level display of the individual channels. Menu access is accomplished with the Up, Down, and Home buttons to the left of the display and the large multifunction knob to the right. There is also a remote control and a Web app, both of which KR preferred. The Evo incorporates Dirac Live Active Room Treatment (ART), which utilizes the low-frequency output of all the speakers and subs (each within its own useful bandwidth) to control the room by sending out antisignals to cancel low-frequency resonances, taking into consideration the in-room acoustical interaction of all the speakers and subs up to 150Hz. While the ISP Evo limits its output sample rate to 48kHz while applying its digital signal processing, KR found that the sound with the ISP Evo was remarkably clear and undistorted, fully capable of distinguishing between lossy sources and higher-resolution, discrete, lossless sources, as well as between lossy streamed Atmos and Atmos TrueHD. KR concluded that he was confident that the ISP Evo, as a purely digital processer, did not impose significant, audible coloration on the sound. "What's more, the sophisticated yet lucid configuration procedures and the smooth integration of functions and controls are up to the standard that one expects from a high-end product. In particular, the ISP Evo offers the most integrated and effective implementation of Dirac Live I've ever used." (Vol.47 No.3 WWW)

TOTALDAC D1-UNITY: €11,500

Listening to a 16/44.1 stream of the soundtrack to Todd Haynes's 2007 film *I'm Not There*, AH commented that the body of Salvador Duran's Martin acoustic guitar "sounded rich, dense, and distinctly solid, as it does through a good record player and on stage. Hearing it hanging between my speakers produced what my brain had assumed was a distinctly analog thrill. The French DAC was allowing me to revel in one of the most fun illusions of reproduced music—the realistic presence of voices and instruments—using a digital signal." AH concluded that the Totaldac made music sound more unrestrained and physically believable than any digital front-end he'd heard (Vol.46 No.12 WWW)

WEISS ENGINEERING DAC502: $10,995

The earlier Weiss D/A processors reviewed in *Stereophile* offered astonishing resolution coupled with sound quality "to die for." The Roon Ready DAC502 more than equals its predecessors in both aspects of performance and adds an Ethernet port, balanced and single-ended headphone outputs, a volume control, a choice of maximum output levels, and several DSP functions including parametric equalization, room correction, binaural-to-loudspeaker processing, vinyl emulation, loudness normalization, and de-essing. The DAC502's low frequencies "combined clarity with an excellent sense of what the late Art Dudley used to call 'force'," wrote JA, adding that he had never heard the layering of recorded soundstages so clearly delineated as with the DAC502. "The Weiss DAC502 retrieves more information from the digits than any other DAC I have auditioned, with the possible exceptions of the Chord DAVE and dCS Vivaldi," he concluded. JVS was equally impressed: "Would I recommend the Weiss DAC502? In a heartbeat. It doesn't merely sound clear, alive, full, and supremely musical; it also offers a headphone jack and a host of DSP options that can address issues in many rooms, speakers, and equipment configurations; ... if I were willing to forgo MQA playback (whose sound I love), I would be more than content to live with the DAC502 for many years to come." If you don't need the balanced headphone output, the smaller DAC501 offers the same performance and feature set as the DAC502. (Vol.43 Nos.8 & 10 WWW)

WEISS ENGINEERING HELIOS: $21,995

The Roon Ready Helios superficially looks identical to the DAC502 that JA reviewed in August 2022, but it uses a new output stage that can drive headphones directly (headphone adapter cables cost $495). While the Helios uses the same ESS Sabre ES9038PRO HyperStream II DAC chip, four of the DAC channels are operated in parallel for each analog output compared with the DAC502's two. The Helios offers the same DSP functions as the earlier processor—Room EQ, Creative (parametric) EQ, DeEsser, Dynamic Adaptation, Vinyl Emulation, and Crosstalk Cancellation—and there are now a large number of equalization presets available for headphones. In the test lab, the Weiss Helios featured a resolution between 21 and 22 bits, which is the highest JA had encountered, greater even than that of the DAC502. The Helios also offered very low levels of harmonic and intermodulation distortion and excellent rejection of word-clock jitter. JA wrote of the DAC502 that it retrieved more information from the digits than any other DAC he had auditioned. With both loudspeakers and headphones, he found that the Helios echoed the DAC502's extraordinary clarity, "but with an enhanced sense of involvement with the music." JA concluded that three decades ago, choosing a product that favored "accuracy" or "musicality" may have been necessary, but today that isn't the case. "The Weiss Helios shows you can have both." (Vol.47 No.3 WWW)

A

ACCUPHASE DG-68 DIGITAL VOICING EQUALIZER: $18,950

The fifth iteration of a unique Japanese product that made its debut in 1997, the DG-68 offers high-resolution, DSP-based multiband equalization and versatile room-acoustic correction abilities (a microphone is included), coupled with a 35-band spectrum analyzer and, according to JA's measurements, state-of-the-art digital/analog conversion. The DG-68 has both analog and digital inputs and outputs. Using the analog inputs and outputs and experimenting with the DG-68's settings to optimize the sound of his reference system in his room, JVS found that with VC/EQ active, "guitar strums sounded more realistic, bass was fuller. ... Tonality was superb, and the slightest change in dynamics or emphasis was easy to hear and savor." He concluded that Accuphase's Digital Voicing Equalizer enriched his experience of reproduced music far more than he could have imagined. "It is transformational and performs flawlessly, to oft-astounding effect. For those who can afford it, its rich musical dividends may prove essential." JVS subsequently repeated his auditioning using the DG-68's digital inputs and outputs. He found that the sound was "more substantial in the best ways possible without, to these ears, any loss in transparency, color, [or] depth. ... The DG-68's digital in/out operation enhanced my listening experience in every imaginable way short of transporting me to the actual recording venue." (Vol.44 Nos.8 & 12 WWW)

AUDIO-GD R7HE MK2: $4990 IN SILVER OR BLACK

Designed and developed under the leadership of Mr. He Qinghua, the "First Prize Winner" of the National Semiconductor (USA) Audio Design Contest, the R7HE MK2 features the Chinese manufacturer's current-domain topology. This two-channel processor features eight sets of fully discrete R–2R DAC modules for decoding PCM data and four sets of discrete DSD hardware decoders. There are six digital inputs—USB, I²S (over RCA and BNC), TosLink, AES3, and HDMI—and both balanced and single-ended analog outputs. It offers 2×, 4×, and 8× oversampling modes, as well as a NOS mode. While HR found the R7HE's 8× oversampling mode pristine, pure, tight, and clear in a manner he was sure many audiophiles will find compelling, overall he thought oversampling "felt awkward and emotionally detached. It did not express recordings with as much beauty or feeling as NOS." HR concluded that what was unique and special about the Audio-GD R7HE MK2 in NOS mode was "how it renders recordings in a heightened state of naturally lit beauty and how clearly it conveys the force and drive behind recorded sounds. The R7HE delivered the dynamism and clarity of the Mola Mola Tambaqui coupled with the triode-like splendor of the HoloAudio May and Denafrips's Terminator Plus." (Vol.45 No.11 WWW)

GEERFAB AUDIO D.BOB (DIGITAL BREAKOUT BOX): $999

"This unique device is a solution to a problem that previously couldn't be solved," wrote KR. The GeerFab D.BOB digital breakout box takes a universal player's HDMI output and with SACDs, extracts two-channel DSD data from the HDMI audio stream, and outputs DoP (DSD-over-PCM) via RCA and TosLink S/PDIF connectors. GeerFab assures users that this implementation is both legal and compatible with HDMI 1.4b and HDCP 1.4. JA's measurements confirmed that the D.BOB's output was bit-perfect—ie, the bits it outputs via S/PDIF are the same as those sent to it via HDMI. (Vol.43 No.5 WWW)

HIFI ROSE RS250A: $2695

The original version of the Roon Ready RS250 offered every feature a downsizing audiophile would need other than a power amplifier and loudspeakers: network, FM radio, digi-

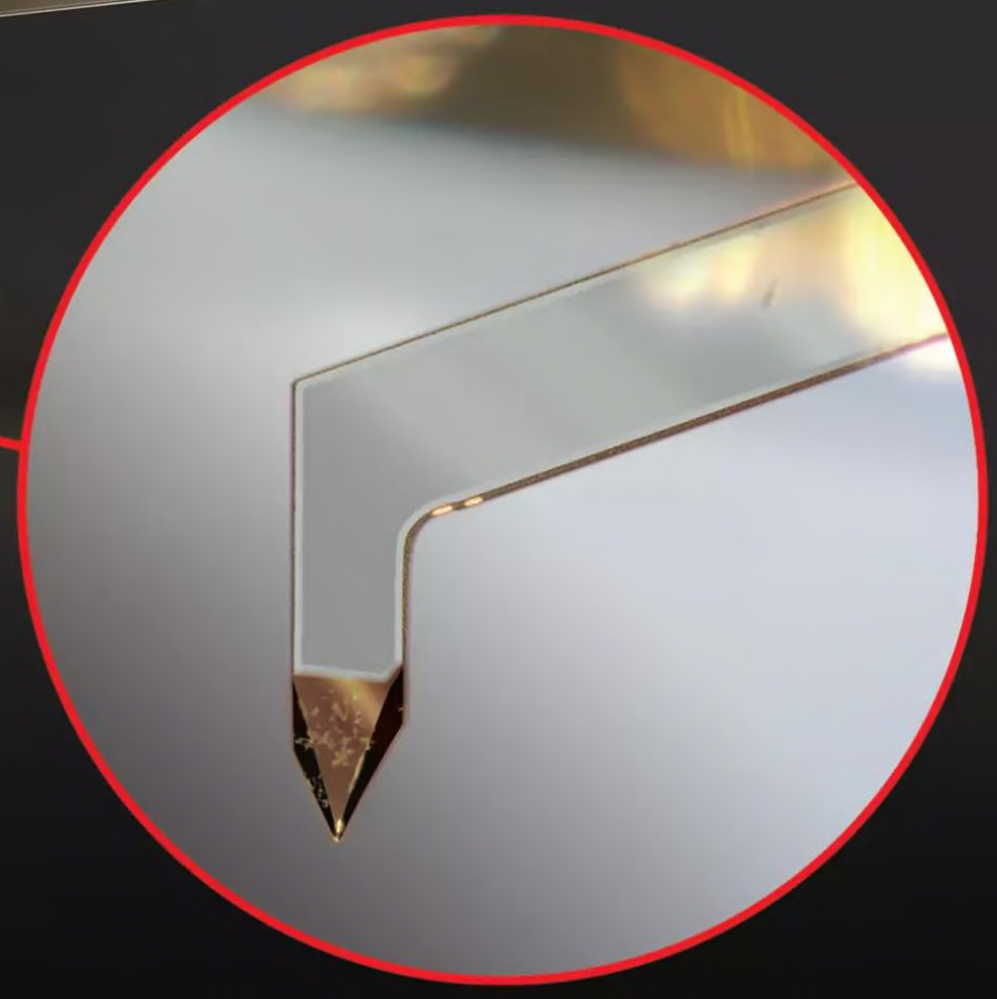
DS Audio

GRAND MASTER EX

"Listening to it will surely turn almost any analog lover into an adherent...the results are immediately audible...and you have one of the, if not the, best cartridges extant."

- Jacob Heilbrunn, *The Absolute Sound*, September 2023

GOLDEN EAR the absolute sound 2023 AWARDS



FLAGSHIP OPTICAL PHONO CARTRIDGE
WITH ONE PIECE DIAMOND CANTILEVER/STYLUS

Photo by WAM Engineering/Wally Tools

GRAND MASTER DUAL CHASSIS PHONO EQUALIZER

HANDMADE IN JAPAN

musicalsurroundings.com 510.547.5006

MUSICAL SURROUNDINGS 33 1/3

EST. 1991 - OAKLAND, CA

tal, and line-level analog audio inputs; video, digital, and analog outputs, including a headphone jack; and a four-color touchscreen that, as well as controlling the RS250, displays streamed videos. The RS250 can also be controlled with the RoseConnect Premium app for iOS and Android. Optional accessories include an internal SSD for music-data storage and a CD drive. Of several filters on offer, JA preferred the apodizing "Corrected minimum phase Fast Roll-off" filter, which he felt offered maximum transparency to recorded detail. Upsampling, he found, slightly softened the highs. The only measured shortfall was higher-than-usual jitter from the internal DAC, which might have been associated with a slight lack of low-frequency clarity. The RS250A replaced the RS250's ESS ES9038Q2M two-channel DAC chip with the higher-performance ESS ES9028PRO and supports PCM data formats up to 32/768 and DSD formats up to DSD512. JA concluded his review of the original RS250 by writing, "the sound quality of the HiFi Rose RS250 suggests that nothing had been compromised in packing so many features into its small chassis." JA repeats that conclusion for the new RS250A, adding that "it is an elegant-looking, well-engineered, multipurpose component." (RS250, Vol.44 No.12 WWW; RS250A, Vol.46 No.10 WWW)

HOLOAUDIO SPRING 3: $3098

The original nonoversampling (NOS) Spring, which HR and AD reviewed in Vol.41 Nos.5 & 7, was HR's reference DAC for two years. The Spring 3 is available in thee versions; the sample reviewed was the top-of-the-line KTE Level 3, which sports a flat-wire-wound O-core power transformer, high-purity 1.5mm OCC silver wiring, R-2R DAC modules hand-selected based on measured performance, and the "enhanced" USB module found only in the Level 2 and KTE versions of HoloAudio's May. HR found that the Spring 3 sounded more like the May than the original Spring but noted that it brought "something uniquely its own to the HoloAudio experience, something lively and bright and rosy-cheeked alluring." One might almost say "springlike." He summed his time with the Spring 3 by writing that in terms of build quality, engineering intelligence, and the ebullient character of its solid, stirringly vital sound, the HoloAudio Spring 3 is equal to or better than any DAC he'd used. (Vol.45 No.5 WWW)

IFI AUDIO NEO STREAM: $1299 $$$

As the name suggests, this is a streaming D/A processor. It offers a choice of four digital reconstruction filters, including iFi's "Bit Perfect" type, and features full MQA decoding. There is an RJ45 Ethernet input, an optical M12 Ethernet input, two USB Type-A jacks (both input and output), a USB-C connection for system updates, a Wi-Fi antenna, and I²S on HDMI, TosLink, coax S/PDIF, and AES3 digital outputs. There are balanced (on a 4.4mm "Pentacon" jack) and single-ended (RCA) analog outputs. A small "OptiBox" transceiver, which converts an electrical Ethernet signal to optical, is included, this powered by a supplied AC-to-USB-C adapter and using a short "SC" optical interconnect (supplied). SM streamed MQA-encoded music from Tidal Connect using Roon, the "Stream-iFi" app, and the galvanically isolated Ethernet connection. "Something just felt 'right' about the sonic product MQA achieves," he wrote. Using both the iFi's own DACs and separate DACs driven by the NEO Stream's AES3 digital output, SM concluded that the NEO Stream's sound quality was beyond reproach, its versatility impressive. "It's particularly well-suited to those who are happy with their traditional hi-fi rigs and are looking to add state-of-the-art streaming to the mix." JA was impressed by the NEO Stream's measured performance, though he did note that the analog output's resolution is limited to 17–18 bits. (Vol.46 No.8 WWW)

IFI AUDIO ZEN DAC SIGNATURE V2: $599 WITH ZEN CAN $$$

Packaged with the iFi ZEN CAN Signature headphone amplifier—see Headphones & Headphone Accessories—the MQA-capable ZEN DAC Signature V2 offers a single USB 3.0 input and both single-ended and balanced outputs, the latter on a 4.4mm Pentaconn connector. (The package includes a balanced 4.4mm-to-4.4mm Pentaconn cable.) Both outputs can be operated in fixed- or variable-level modes. JMu found that in fixed mode the ZEN DAC's maximum output level was a little too high with the ZEN CAN driving her usual headphones—she used iFi's iEMatch balanced attenuating cable ($49). (Peculiarly, with the ZEN DAC's fixed level set to its lowest, JCA didn't find the attenuator cable necessary with the ZEN CAN and the same headphones.) Using the DAC in her main system, and using its volume control, JMu said its sonics exceeded her expectations: "Detail was maintained and the sound was robust, full, and clear. Backgrounds remained quiet." JA found that the ZEN DAC Signature v2 had 19 bits' worth of resolution and very low levels of harmonic distortion. Excellent performance for the price. (Vol.45 Nos.1 & 3 WWW)

IDEON AUDIO AYAZI MK2: $4000

IDEON AUDIO 3R MASTER TIME BLACK STAR CLOCK: $4000

Reviewed as a system, this pairing from Greece offers coaxial S/PDIF and asynchronous USB inputs and one pair of single-ended outputs. The Ayazi processor uses the well-regarded ESS DAC chips. Without the Master Time Black Star Clock, AH found that the Ayazi reproduced music with less resolution and timbral accuracy and created a spatially smaller, less lifelike sound. "Music sounded duller and less compelling," he wrote. With the external clock, nothing was exaggerated or missing, including deep bass and the high highs, and nothing sounded strident or splashy. This sense of order was heightened by profoundly silent backgrounds and remarkable resolution. "With a combined price of [$7900], it is by no means inexpensive," AH concluded, "but it provides good value for the refined musical spectacle it creates." JA noted that the Ayazi did well on the test bench, but he didn't find any difference in its measured performance when fed USB data via the 3R Master Time Black Star Clock. Still, based on AH's subjective evaluation, the A rating is only when used with the 3R Master Time Black Star Clock; without the clock, this is a class B DAC. (Vol.45 No.8 WWW)

JADIS JS1 MKV: $21,900

A two-chassis processor with fully balanced circuitry, the Jadis uses tubes for its balanced and single-ended outputs. "Despite its majestic weight, size, and price, the JS1 offers few concessions to modernity or convenience: no volume control, no network connection, no selectable filters, no MQA, no wireless anything," AH wrote. It does have a USB input that accepts and converts PCM data up to 24/384, as well as DSD. AH "strongly" preferred the sound with USB data, which was corroborated by JA's measurements. The Jadis had an expansive, easy-to-listen-to, celebratory personality, AH wrote: "It allowed the music to flow with not a trace of the edginess, glassiness, and grayness that plagues some digital components." He felt that the RS1 MkV excelled in two areas: It created a vast, shimmering soundstage, and it portrayed instruments and voices with more tonal richness and more vivid colors than he imagined a digital component could. Summing up, AH wrote, "I can confidently say that the Jadis JS1 offers something that, if not unique, is at least highly distinctive: a digital source that uses tubes to offer a rich, colorful, tactile, propulsive sound, state-of-the-art soundstaging, complete freedom from digital artifacts, and an ability to breathe life into just about any recording." JA summed up the Jadis JS1 MkV's measured performance as "dominated by the behavior of the tubed analog stage. To the presumably clean output of the AKM4497EQ DAC chip, it adds low-order harmonic distortion and a random noisefloor that increases in level at low frequencies. In other words: tube sound." (Vol.45 No.1 WWW)

LUMIN P1: $10,000

The elegant-looking, Roon Ready P1 offers a complete set of digital inputs—AES3, S/PDIF (coaxial and TosLink), USB, Ethernet (electrical and optical), with full MQA decoding—as well as balanced and unbalanced analog inputs, one HDMI 2.0 input, and three ARC-enabled HDMI 2.0 outputs with 4K video passthrough. There are balanced and single-ended analog outputs and S/PDIF (BNC) and USB digital outputs, and the digital volume control is based on Leedh processing, which minimizes the number of additional bits introduced in mathematical operations in order to reduce or eliminate truncation-related loss of information. JA auditioned the P1 with Lumin's L1 network-attached UPnP server ($1400 for the 5TB version; a 2TB version is also available), using both Roon and Lumin's app. He was surprised to find that bass guitar had a better sense of drive when played from the L1 with the Lumin app than when he used Roon to play the file from the Roon Nucleus's internal storage. JA concluded that the P1 was a superb-sounding D/A processor and "its transparent-sounding analog inputs and full video functionality are a welcome bonus." On the test bench, the P1 offered high resolution and low noise and distortion. The analog inputs had a low input impedance, which might be a problem with source components having tubed output stages. (Vol.45 No.4 WWW)

MEITNER MA3 INTEGRATED: $10,500

Trickled down from EMM's DV2, the MA3 uses the same fully discrete, one-bit DAC circuit, with an internal conversion rate of DSD1024. The digital-domain volume control is said to preserve resolution at low settings and, unlike the DV2, the Roon Ready, MQA-capable MA3 can stream music from a network-attached storage device (NAS) or from streaming services via its Ethernet and USB ports. Using either Roon or the free MConnect app, JVS noted that "the MA3's soundstage was impressively wide, its bass was quite strong, and its colors were true." His conclusion? "The MA3 doesn't just take you from Point A to Point B; it makes every journey a joy. Anyone in the market for a versatile one-piece, Roon Ready, MQA-capable streaming DAC with volume control that is capable of high-resolution PCM and DSD playback will be all the richer for taking it for a spin." In the test lab, the MA3 offered somewhat different measured behavior depending on whether it was decoding impulse-like data or continuous waveform data, this typical of Ed Meitner's DAC designs for 30 years. But with both kinds of data, the MA3's measurements were excellent, with high resolution and low noise and distortion. (Vol.45 No.6 WWW)

PS AUDIO PERFECTWAVE DIRECTSTREAM MK2: $7999

The same size as its well-regarded predecessor, the MK2 processor replaces the rectangular, four-color touchscreen with a smaller display with a Mute/Menu button to its left and a blue-illuminated five-button controller to its right. However, it still upsamples PCM data to 30-bit words, now sampled at 2× the original's 28.224MHz, and these still processed by a digital-domain volume control before being resampled to single-bit, quad-rate DSD, and converted to analog with a low-pass filter. Though there is no Ethernet port, the MK2 has seven digital inputs: two AES3, optical and coaxial S/PDIF (one each), asynchronous USB Type B, and two I²S over HDMI. (The last two can be used with PS Audio PerfectWave transports.) Each digital input can be galvanically isolated to eliminate noise on shared grounds. There are unbalanced and balanced analog outputs. (The latter's XLR jacks don't have the usual locking mechanism; JA found that the weight of the AudioQuest interconnects he initially used kept pulling the plugs out.) Overall, JA enjoyed how the DirectStream MK2 played music, commenting that while its low frequencies don't have quite the drive he appreciates with the Benchmark and MBL processors, "it betters its predecessor in this respect and sounds more open in the highs." But he was bothered by the high levels of random noise in the MK2's output, this mostly ultrasonic but in-band, too, and some 20× higher than its predecessor's. In theory, this noise will compromise the processor's low-level resolution. While his auditioning suggested that the DirectStream MK2's retrieval of recorded detail was not in the same class as the high-resolution overachievers that the magazine has reviewed, his enjoyment of the music was not unduly impaired. (Vol.46 No.6 WWW)

SONNET AUDIO MORPHEUS MKII: $3170

As well as the usual S/PDIF and AES3 inputs, this 24-bit, non-oversampling D/A processor offers a choice of USB or I²S input ports. Both balanced and single-ended outputs are offered, and, usefully, the Morpheus features a volume control. It doesn't decode DSD data. AH found that the USB input didn't sound as vivid as the AES3 input, but the I²S input was his favorite. Compared with AES3, "instruments became less homogenized, each sounding more distinct and colorful, and everything in the soundfield grew more pre-

cise, solid, and well-organized," he wrote. JA found that the S/PDIF and AES3 inputs had relatively high levels of jitter, though he was impressed by the 20-bit resolution offered by the Morpheus's R-2R ladder-DAC topology. AH summed up his time with the Morpheus, writing that "this thoughtfully designed Dutch DAC ... resolved massive amounts of information while reproducing my favorite music in a natural, embodied manner that never sounded strident. It made listening to even early or poor recordings musically meaningful and fun." The optional MQA card adds $199, though AH couldn't get this to work with I²S data, just AES3. MKII upgrade is said to be trivial: a substitute chip in the volume control, which AH didn't audition. (Vol.44 No.11 WWW)

B

DENAFRIPS ENYO: $850 $$$

This recently renamed, affordable D/A processor retained all of the pricier Denafrips Terminator's features, and in OS Slow mode, "a majority portion of the flagship's engaging character," HR wrote, "but the sounds it projected seemed smaller and denser and tighter," while "the sound in OS-Fast was kind of forward, rough, and ringy, with sharpish, sometimes glaring highs." In NOS mode, the Ares II "was relaxed and musical but exhibited a slight diffusion and grainy flatness," he found. HR summed up his time with the Ares II by writing that it "recovered more ambient/reverberant information and generated larger, more precisely mapped soundstages than any DAC I've encountered under $1698. ... I see the Denafrips Ares II as a working person's superDAC." JA's measurements found that the OS filter modes overloaded with full-scale high-frequency signals, and that there was a peculiar modulation of the ladder DAC's linearity error with signal level. Otherwise, this inexpensive DAC offers often-superb measured performance, he concluded. (Vol.43 Nos.9 & 11 WWW)

LEJONKLOU KÄLLA: $8495

Audiophiles turn up their noses at the lossy compression used by the Spotify streaming service. But to his amazement, AH found that with this bare-bones Swedish DAC—it is limited to 16/44.1 resolution and the manufacturer says it's designed to work best with AirPlay—"Spotify drew me into my music in a way I hadn't experienced previously with digital. It did away with the invisible glass wall digital often places between the music and the listener more thoroughly than any device I've heard." Compared with lossless audio streamed to the Källa from Qobuz, AH found that while he heard *slightly* more solidity, more incisive detail, and maybe a bit more tone color with Qobuz, with Spotify "the music simply soared and jumped, while with Qobuz it kind of sat there, glowering." (Vol.46 No.3 WWW)

MOJO AUDIO MYSTIQUE X SE: $6999

The New Mexican Mystique X offers AES3, coaxial S/PDIF, and USB digital inputs, single-ended analog outputs, and features a pair of vintage 20-bit Analog Devices AD1862 ladder-DAC chips. The SE version that HR reviewed adds ultrafast, ultralow-noise, zero-recovery SiC Schottky rectification diodes, ups the capacitance of the four-pole Mundorf capacitors to 22,000µF, and employs a "massive" power supply with Lundahl amorphous-core chokes. HR liked what he heard: "The Mojo's extremely natural, easy-flowing sound trumped every inclination I had to do comparisons with some other digital source," he wrote, and complimented the Mystique's presentation of low-level detail: "The Mojo DAC made piano tones glow and whisper, how all the little quiet notes—ones I don't usually hear—got through, letting me enjoy their unique expressiveness and admire them individually." Overall, the Mystique X SE "produced a unique, sophisticated listening experience that presented digital recordings as beautiful, probing, and engaging." JA was less impressed with how the Mojo DAC measured. The Mystique's real-world resolution "was about 16 bits below 1kHz and 17 bits above about 4kHz," he wrote, and found that while low-level information was boosted in level, the background noise levels were both high and different in the two channels. He felt that the limited resolution and high positive linearity error at low levels were matters for concern, though he did note that these problems will be least audible with 16/44.1 data. In his own auditioning, JA also noted the enhancement of low-level detail but despite the disappointing measured behavior he didn't immediately notice anything questionable about the Mystique's sound quality with 16/44.1 USB data; the tonal balance was warm, and there was nothing fatiguing about the treble. Hi-rez audio didn't offer the expected improvement, however. The Mojo DAC, he found, formed a synergistic partnership with the Jay's Audio upsampling CD transport. (Vol.46 Nos.4 & 5 WWW)

TOPPING DM7 8-CHANNEL D/A PROCESSOR: $599 $$$

This eight-channel processor from China has just one digital input, USB, and the balanced analog outputs are on TRS jacks rather than XLRs. It includes a master volume control and individual channel gain controls, all with 0.5dB resolution. (Level adjustments for individual channels can be made with the supplied remote control.) A front-panel display shows volume, whether the audio data are PCM or DSD, and bit depth/sample rate. Like other processors that use the ES9038PRO DAC chip, the DM7 offers a choice of seven PCM reconstruction filters and four DSD filters. There are also two choices for maximum output levels—4V, the default, and 5V—and fixed or variable volume. KR was able to use both Roon and JRiver with the Topping and commented on impressive dynamic range, both in stereo and multichannel playback, a believable soundstage, and "striking purity." KR decided that the DM7 "offers the hard-to-beat combination of simple operation, low cost, and excellent sound." In the test lab, the DM7 offered a high resolution of 19 bits, with low linearity error and very low levels of distortion, random noise, and jitter. "The Topping DM7's measured performance is superb, even without taking its affordable price into account," wrote JA. Still, absurdly high value for money. High Class B. (Vol.46 No.1 WWW)

C

WIIM MINI: $99
This tiny, unbelievably affordable, Wi-Fi–capable network bridge also has an analog input and output with A/D and D/A converters and a volume control. The analog input is limited to 16/48 but via Wi-Fi, the Mini will accept hi-rez data up to 24/192 and output those data from its TosLink S/PDIF port. It will also decode hi-rez data to analog, though the sample rate is limited to 96kHz. WiiM's Home app allows hi-rez audio to be streamed from Qobuz, and the Mini can also receive normal-resolution data sent via Wi-Fi using AirPlay 2 and Roon. Multiple Minis can be operated simultaneously for multiroom use—a built-in microphone allows each Mini's latency to be calibrated to ensure that they are synchronized. JA commented that the Mini's analog input and output are serviceable, but it was its ability to output hi-rez audio data from its TosLink output that got this bargain-priced product a recommendation. While preparing the review in April 2022, JA occasionally had problems with word-length truncation when streaming 24-bit data from Qobuz or from files on his iPhone when he changed the maximum TosLink sample rate with the Home app. These problems could be resolved with a reboot, and a firmware update dated July 1, 2022, solved it completely. Rating is for DAC performance; Class A as a network bridge. (Vol.45 No.8 WWW)

DELETIONS

Verity DAC, Gold Note DS-10 EVO, not reviewed in a long time.

PREAMPLIFIERS

A

AUDIO-GD VACUUM HE1 XLR: $3999
This large, heavy, Chinese-made, tubed, all-balanced preamplifier doesn't have a phono input, but it offers three balanced (XLR) and two single-ended (RCA) line inputs, balanced and single-ended outputs, and comes with a remote control. Tube complement is six 6H2N-EB twin triodes and four 6U4N-EB rectifiers, all Russian-made. Compared with the Lab 12 HR, the Vacuum HE1 played slightly richer and thicker with more obvious three-dimensionality. Compared with the PrimaLuna EVO 100, the Vacuum HE1 XLR distinguished itself with quicker, sharper transients, more thoroughly exposed detail, harder-punching bass, and stronger pace, rhythm, and timing, HR noted. "Audio-GD's Vacuum HE1 XLR line-level preamp allowed diverse audio sources to sound maximally diverse—and that, folks, is transparency," HR concluded. In the test lab, JA found that the preamplifier's top-octave output varied with the setting of the volume control. With it set to the maximum, the response was down by 5.5dB at 20kHz. With it set to "60," the 20kHz output was down by 0.9dB. Harmonic distortion was fairly low and was dominated by the second and third harmonics. JA warned that the HE-1 shouldn't be used with power amplifiers that have an input impedance of 10k ohms or lower. (Vol.46 No.10 WWW)

AUDIO RESEARCH REFERENCE 6SE: $19,500
An updated version of the discontinued REF 6, with changes in capacitors and wiring, the fully balanced, tubed 6SE impressed JVS, who noted that when he installed the REF 6SE in his system, his speakers "poured forth some of the most polished, transparent, and arresting sound" he'd heard from his system. Longer-term listening, however, indicated that the Audio Research preamplifier was sensitive to setup issues. Once he had optimized everything else in his system—cables, footers, stands, AC supply—JVS could report that the REF 6SE's "warmth and vibrancy of color, prominent midrange, and seemingly more dramatic dynamic contrasts made me want to listen more and deeper." In a Follow-Up, JA felt the REF 6SE's sonic signature, with its slightly softened highs but superb resolution of recorded detail, would work best with systems that are a little laid-back in the upper midrange and that don't have underdamped or poorly defined low frequencies. (Vol.43 No.11, Vol.44 No.8, Vol.45 No.10 WWW)

BENCHMARK LA4: $2950 WITHOUT REMOTE, $3050 WITH REMOTE $$$
Benchmark's usual approach to design is to out-spec the competition, and so it is here. Like other Benchmark equipment he has tested, the affordable LA4 challenged the resolution of JA's test instruments, with "superb" channel separation, "extremely low noise, and virtually no power-supply-related spuriae." Restricting his measurement to the audio band, JA found an "astonishing" S/N ratio of 105.5dB for both channels; it remained extremely low across the audioband. He summed up: "Benchmark's LA4 is the widest-bandwidth, widest-dynamic-range, lowest-noise, lowest-distortion preamplifier I have encountered." In his listening room, KR compared the LA4 to a cable—and couldn't hear any difference. He concludes, "the LA4 is probably the most transparent and revealing audio component I've ever used. It does not seem to leave any fingerprints on the sound." See also HR's review of Benchmark's similar HPA4 headphone amplifier (see "Headphones"). JA found that the LA4 had a more upfront presentation than the MBL N11 or Pass Labs XP-32, with less soundstage depth apparent on his own recordings. (Vol.43 Nos.1 & 11, Vol.44 No.3 WWW)

DAN D'AGOSTINO MOMENTUM HD: $42,500
The two-piece Momentum HD—its power supply is contained within its stand—is an all-balanced, fully discrete, line-level preamplifier with six inputs and two outputs, all via XLR connectors. As with the original Momentum, the HD's aesthetics keep pace with the designs of other D'Agostino creations: Here, the dial at the center of the front panel is a green-lit volume meter, its bezel the volume "knob." Once installed in JVS's system, the Momentum HD brought to a favorite recording of the Shostakovich Symphony No.11 "deeper and more resonant bass and an all-enveloping three-dimensional soundstage that was as thrilling as it was terrifying." He added, "with the Momentum HD, a new window opened, and every recording became a source of wonder." Writing from his test bench, JA noted that the Momentum HD fell slightly short of its predecessor in a few aspects of measured performance yet distinguished itself as "a well-engineered preamplifier." (Vol.43 No.2 WWW)

DARTZEEL NHB-18NS MKII: $62,545 ★
The "stunningly transparent" darTZeel NHB-18NS of 2007 offered spectacular transient speed, resolution, and decay, while providing an overall coherence that "made recorded music, analog or digital, sound much closer to live," according to MF, who added that, with its warm, vivid combination of red case and dark-gold front and rear panels, the NHB-18NS "looks like it sounds." As of the summer of 2008—by which time he'd bought one for himself—MF felt that the battery-powered NHB-18NS matched the resolution and transparency of MBL's 6010 D preamp while managing to sound less mechanical. The NHB-18NS of 2017 is a complete redesign of the Swiss company's preamp, but it still offers both line and phono stages—the latter, per MF, being "sonically far superior to the original" and more adjustable than many outboard phono preamps of his experience. MF also hailed the new model's digitally displayed volume-control calibration and the fact that, unlike those of its predecessor, the new model's batteries "have never run out of juice during a listening session." According to Mikey, the new darTZeel's phono section sounds "neither as transparent nor as dynamic" as the CH Precision P1 phono preamp ($31,000 without additional power supply) or Ypsilon VPS-100 Silver Edition ($65,000). Yet, with the "tube-like richness and generous flow" it inherited from its forebear, the 18NS "will more than satisfy casual vinyl listeners." The major difference between the original NHB-18NS and the new version was the replacement of the transformer-coupled balanced inputs and outputs with a direct-coupled topology. JA found that the balanced output impedance was usefully much lower than the original version's. While distortion was very low, the noisefloor was higher than JA expected, and there was an odd rise in the noisefloor in the mid-treble. The MC input offers adjustable gain and input impedance, an optional subsonic filter, and so-called Neumann 4th pole equalization. JA recommends the latter be switched off—without it the RIAA deemphasis is superbly accurate. (Vol.30 No.6, Vol.31 No.10, Vol.33 Nos.5 & 10, Vol.40 No.6, Vol.45 No.2 WWW)

EMIA AUTOFORMER: $4875 IN COPPER, $7525 WOUND AND WIRED WITH 0.999 SILVER.
See Alex Halberstadt's Brilliant Corners column in this issue. (Vol.47 No.4)

ENGSTRÖM MONICA MK3: $60,000
This very expensive, two-chassis, tubed line preamplifier from Sweden houses the transformer-coupled analog circuitry with its 48-step volume control in one chassis, the power supply, display, and control circuitry in the other. The review sample's preamp chassis used four NOS 5687WB small-signal tubes; the power supply used one ECC83 tube and one 6080WC tube. There is no remote control; the preamp can be controlled by Engström's iPhone/iPad app. JVS wrote that the Engström's tonal saturation and completeness sounded 100% right" and concluded that the Monica Mk3 preamplifier "is as complete a musical instrument as I've ever welcomed to my music room. It doesn't hit you over the head with its strengths; rather, it unfailingly seduces with the inherent rightness of its sound and presentation." With the preamp on the test bench, JA wrote that the Engström Monica Mk3's measured performance is dominated by the designer's decision not to use negative feedback, which gave rise to modest amounts of mainly low-order harmonic distortion. He was impressed by the fact that the preamplifier was not fazed by driving low impedances, but was puzzled by the Engström's boosted response at ultrasonic frequencies, which could mean that the preamplifier might be susceptible to picking up RF interference. (Vol.45 No.4 WWW)

ESOTERIC GRANDIOSO C1X: $46,000
When tastefully illumined by the adjustable blue LED lighting of its separate power supply, the dual-mono, fully balanced Grandioso C1X line preamp "looks like a million dollars—which, given its healthy price tag, it should," wrote JVS. But even if Esoteric's attention to detail had not convinced him that the C1X was a class act, its sound would have, and did. "The C1X delivered bass every bit as mouthwatering and thrilling as I've come to expect from my system," he wrote. Overall, the Grandioso C1X "could very well be the keeper, the component that delivers a lifetime of joy and pleasure," he concluded. "It is one of those rare products whose excellence is proclaimed with every note. It is more than an object of beauty; it reaches into the emotional core of musical experience and opens a window onto ultimate truth." JA was similarly impressed when he got this Japanese preamplifier in his test lab, writing "Esoteric's Grandioso C1X offered superb measured behavior. Its extraordinarily low levels of distortion and noise rival the performance of contenders from Benchmark, MBL, and Pass Labs." Asked for his rating, JVS says, "If there's an A+ category, it belongs there." There isn't.(Vol.44 No.7 WWW)

GRYPHON COMMANDER: $67,000
This unusually large, heavy, expensive, two-chassis, dual-mono, solid state line-level preamp features a 4.3" proximity-sensing TFT touch screen that controls all of its functionality, including an 85-step, microprocessor-controlled volume control. (There is also a remote control.) The Commander has four pairs each of balanced and single-ended inputs and two pairs of balanced (XLR) outputs and one single-ended output pair—plus another stereo output pair labeled "TAPE." After the preamp had been run in for six days, MF felt its sound was precise, pleasingly taut, and well-focused, with immediately impressive image three-dimensionality. "Vital" was the one-word description that came to his mind. "Even for this seasoned veteran," MF concluded, "every listen demonstrated that the Commander did as promised, allowing (rather than producing) exceptionally transparent, fast, natural, open sound from all source components. It was as close to a neutral-sounding audio component as I've had in my system." The Commander also excelled on the test bench, offering very low noise and very low levels of low-order distortion. (Vol.45 No.7 WWW)

HOLOAUDIO SERENE KTE: $3098
HR found that this "supertransparent" solid state line preamp enhanced the sound quality with every source he tried: "The Serene gave the May a dose of sunlight and a shot of

Audio Advice

The LARGEST online library of home theater, home audio & turntable videos, reviews, buying guides & more!

Shop Online at AudioAdvice.com

Raleigh & Charlotte, NC Showrooms

888-899-8776

Free 2-Day Shipping

30 Day Returns

Expert Advice

Price Guarantee

adrenalin. [It added] grace and liquidity to the sound of the Mola Mola Tambaqui and punch and bass authority to the Denafrips Terminator Plus." He also noted that it enhanced the spatial presentation of Sutherland Engineering's Little Loco phono stage—"adding force and rhythmic nuance while peeling away a layer of shadow that had previously obscured the perimeters of the Loco's projected soundscape." (Vol.45 No.6 WWW)

LAB12 PRE1: $2290

This line stage from Greece uses a single high-transconductance, twin-triode, E88CC tube per channel without any loop feedback to give a high maximum gain of 21dB. It offers five line-level (RCA) inputs and two outputs: one RCA, the other XLR. HR found that compared to PrimaLuna's tube-rectified EVO 400, the Pre1 sounded turbocharged. "Could this be the difference between solid state and tube rectifiers?" he wondered. Compared with HoloAudio's higher-priced KTE Serene, HR noted that the Pre1's clarity/transparency/invisibility was equal to that of the Serene but the Pre1's transparency was less stark than the Serene's, "breathier and more vibrant with a slight, just-right aura of tube radiance." He also found that the Pre1 couldn't match the Serene "for low-end gut-punch, upper-bass detail, or dynamic swagger." However, using the Pre1 to drive Genelec's G Three active loudspeakers, HR realized that he was experiencing "a more refined, grainless, 'invisible' preamplifier than any I could recall using." (Vol.46 No.1 WWW)

MBL NOBLE SERIES N11: $17,700

This beautiful, multiple-input, multiple-output line preamplifier can be used in its Unity Gain mode for maximum sound quality or with a higher-gain setting. JVS found that the N11 in its higher-gain mode "brought out the warm core of every note," adding that it enabled him to hear "the subtle differences of interpretation, dynamics, and color that are the portals to the truth behind the notes." He found that Unity Gain moved the soundstage farther back in his system with his D/A processors. While perspective was clarified, this mode made the sound less open with slightly reduced transparency and bass. Ultimately, he felt that the N11's Unity Gain "toned down the noisy top ends of some recordings, making for easier listening." The N11's measurements revealed extraordinarily low noise and distortion, especially in Unity Gain mode. However, the CD input's unbalanced impedance of 2.3k ohms will tax sources with a tubed output stage. Those can be used with the balanced inputs or the unbalanced Aux inputs, which have impedances of 10k ohms and 47k ohms, respectively. To his surprise, JA found that inserting the N11 between his DAC and power amplifiers resulted in a more palpable presentation, with a deeper soundstage. (Vol.43 Nos.7, 11, & 12, Vol.44 No.3 WWW)

MCINTOSH C12000: $16,000

This massive, two-box preamplifier features separate tubed and solid state output stages. The signal circuitry is housed in one chassis; the control circuitry and power supply are in the second chassis. Tubes are 12AX7As and 12AT7s. There are six pairs of balanced line inputs, four pairs of single-ended line inputs, and two pairs of single-ended phono inputs, each of which can be set independently to moving magnet or moving coil. (The phono stage is tubed.) There is a headphone output as well as balanced and single-ended outputs. SM went back and forth between the tubed and solid state outputs, but listened mostly with tubes. However, listening to a percussive and impactful recording of Chabrier's *España*, he "got a huge kick in the pants from the solid state presentation; the dynamics were more impressive compared to the tubed output." SM decided that the genre of the music and the type of the recording will influence the choice between tubes and solid state. "It's good to have access to both," he concluded, adding that with the Decca 2022 reissue of Wagner's *Ring Cycle*, "the quantity of musical information being launched at me was almost overwhelming." The C12000 turned in an impressive performance on JA's test bench, offering very low distortion and noise with both line and phono inputs and from both tubed and solid state outputs. "The McIntosh C12000's measured performance is among the best I have encountered from a preamplifier," he wrote. (Vol.46 No.11 WWW)

NAIM NSC 222: $8999

This full-function streaming preamplifier can be used with its internal power supply or with Naim's NPX 300 external supply ($8999). "The fully loaded NSC 222 packs quite a punch in terms of facilities and features," commented MC, because as well as unbalanced line inputs, it includes a medium-sensitivity moving magnet phono preamplifier, a comprehensive streamer/DAC that can be controlled with the matching Naim app (for Android or iOS), and a dedicated headphone amplifier. Listening to the digital inputs, MC found that the NSC 222 showed high resolving power, revealing quite subtle differences between 16/44.1, 24/96, and 24/176.4 WAV files—and finally DSD64. The last was his favorite, revealing a marked degree of crisp precision and musical communication. While MC and his team of listeners liked what they'd heard with the internal supply, the sound was obviously better, in almost all aspects of sound quality, including the headphone output, with the NPX 300. MC summed up the NSC 222 by writing "All operational modes, analog disc, digital audio streaming and decoding, plus headphone and loudspeaker drive were consistent, distinguished by an innate sense of energy, imbued with transparency and microdetail. There was also a significantly open, wide-band character, somewhat different from the mildly 'contained' sense of some previous Naim iterations. And it is that satisfying, involving rhythmic quality that continues to entertain." JA commented that Naim's NSC 222 offered generally excellent measured performance via its digital inputs, with about 18-bit resolution and low jitter, and via its line and phono analog inputs. He did note that the ultrasonic response rolled off by 3dB at 41kHz with all these inputs, but this won't have subjective consequences. (Vol.47 No.1 WWW)

PASS LABS XP-32: $18,375

Replacing the well-regarded XP-30, the three-box XP-32 looks almost identical. To minimize noise, each channel's audio circuitry is housed in a separate chassis with the "dirty" control and power-supply circuitry in a third. Internal improvements include new transformers and DC-coupling of the balanced and single-ended inputs. The output stage runs a higher class-A bias with lower output impedance than the XP-30, and the volume control now operates in 0.5dB steps rather the earlier preamp's 1dB steps. JA was enthralled by the XP-32's transparency, hearing small details in his own recordings that he had not been fully aware of before. "A great preamplifier will allow through so much information, so much of the music, that the shortcomings of lesser speakers and amplifiers can be forgotten. The Pass Labs XP-32 satisfies that definition," he concluded. In a follow-up, JCA compared the XP-32 with the two-chassis XP-22. He was impressed with what he heard: "The XP-32 was just slightly more explicit than the XP-22. It was immediately noticeable on any music I played," he wrote, concluding that he "thought the XP-22 preamplifier let through all the music, or all that mattered, but I guess it didn't, because the XP-32 lets through just a little bit more." (Vol.44 No.3, Vol.45 Nos.4 & 6 WWW)

PRIMALUNA EVO 400: $5295

PrimaLuna's brand-new flagship line-level preamp—it replaces the company's DiaLogue Premium—the EVO 400 uses tubes for rectification as well as for gain and buffering and includes input and output transformers that allow balanced operation. Noting that its extraordinary weight (52.8lb) comes not from its steel chassis but from its abundance of power-supply transformers and chokes, HR praised the EVO 400's very high parts quality and lavished similar praise on its "scintillating" presentation and ability to portray vivid, well-saturated musical colors while nevertheless being "more concise-sounding" than its predecessor in the PrimaLuna line. "It generated clearer, more muscular presentations with sharper focus and more distinctly punctuated momentums." Reporting from his test bench, JA noted that "the EVO 400 measures well for a tubed design." (Vol.46 No.1 WWW)

PRIMARE PRE35 PRISMA: $5000 AS REVIEWED

The basic PRE35 Prisma preamplifier lists for $3900. The DM35 DAC module adds $500, and the SM35 Prisma network module adds $600—put it all together and you have the Primare PRE35 Prisma, which has both balanced and single-ended analog line inputs. Digital inputs include four TosLink, two S/PDIF on RCA, one USB-A, one USB-B, one LAN/Ethernet, and Wi-Fi and Bluetooth antennae. There are two balanced and two unbalanced outputs, one digital output (S/PDIF on RCA), and a LAN output. The DAC chip is a premium AKM AK4497EQ. The PRE35 can be controlled with the multiroom Primare Prisma app, which is available for iOS and Android. The app facilitates component setup, integrates internet radio, allows access to music files stored on your local network, and provides links allowing you to access local streaming services via Chromecast, AirPlay, Bluetooth, and Spotify Connect. Qobuz and Tidal integration were imminent at the time of the review. On first listen, SM felt that the sound of the PRE35 Prisma was very close to that of his reference Audio Research REF6SE preamplifier, though "deep lows were more forward on the PRE35, the highest highs audible to me a little brighter—in other words, voiced a little differently at the extremes." Overall, after extended listening SM was impressed, concluding "The Primare PRE35 Prisma is a finely honed, well-made, and—considering the state-of-the-art technologies it incorporates—fairly priced streaming preamplifier. Its simple Scandinavian aesthetic belies its rich functionality and flexibility." JA was equally impressed by the PRE35 Prisma's measured performance, offering very low distortion and noise for both analog and digital input signals. (Vol.46 No.4 WWW)

ROGUE RP-7: $4995 ★

This line-level preamplifier uses four 12AU7 dual-triode tubes and contains 17 (!) separate power supplies, including an individual regulated filament supply for each tube. Its military-spec circuit board is endowed with heavy copper traces and graced with an abundance of Vishay HEXFRED diodes, Vishay resistors, and Mundorf oil-caps. The Rogue's rear panel is itself abundant with connectors: three unbalanced (RCA) line-level inputs, two balanced (XLR) line-level inputs, and two each unbalanced and balanced outputs, following the same connector conventions. The front panel is notable for more than just its single 1/4" headphone jack and its old-school volume knob: It also includes a Balance knob, which HR loved. Used in conjunction with HR's First Watt SIT-3 solid state amplifier, the Rogue preamp delivered "a superbly balanced and invigorating—nay, intoxicating—system that didn't sound like tubes or solid state. But it did reproduce, with extraordinary weight and saturated tones, my latest favorite piano album." Herb's conclusion: "My new reference." In measuring the RP-7, JA found that, "as long as it's driving a power amplifier with a high input impedance, Rogue's RP-7 offers generally respectable measured performance." (Vol.42 No.3 WWW)

SCHIIT FREYA+: $849 W/O TUBES, $1049 WITH 6SN7 OR LISST, $899 WITH NOS 6N8S $$$

This compact line stage uses four Tung-Sol 6SN7GTB tubes and offers two pairs of balanced XLR inputs, three pairs of unbalanced RCA inputs, one pair of XLR outputs, and two pairs of RCA outputs, as well as a remote control. There are three operating modes: solid state buffered; passive; and tubed active, which offers 12dB of gain. KR found that the SS buffer gave enhanced soundstage depth compared with passive mode, where the music was marginally drier and smaller. Tubed active mode in general sounded a little warm, rich, and forgiving—all attributes sought by many. "The bass was rich and weighty, which I found quite enjoyable for passive listening," wrote KR, "but I preferred the solid state buffer mode for its uncolored directness." His conclusion? "The Freya + delivers high-quality sound and reliable operation at a very friendly price. Each of the Freya's modes will appeal to specific listeners, but, very likely, many will enjoy having all the options." JA was impressed, writing, "With its very low levels of both noise and distortion, even with the tube stage active, the Schiit Freya + preamplifier's measured performance is superb, matching or better than the specifications listed on Schiit's website." His only caution was that the high output impedance at low frequencies from all the outputs will result in a lightweight balance with power amplifiers that have an input impedance much below 10k ohms. After a brief trial at home (which he has not yet

written up), JCA is tempted to downgrade the Freya+ due to nonsonic factors, in particular excess heat and mediocre, difficult-to-interpret front-panel controls. Almost, but not quite. (Vol.45 No.4 WWW)

SUGDEN MASTERCLASS LA-4: $4650 ★

Sugden's solid state, line-level-only Masterclass LA-4 offers four single-ended (RCA) inputs and one balanced (XLR) input, with outputs of both of those types. (The circuitry is fully balanced overall.) Gain is generous—JA would measure ca 20dB, single-ended or balanced—with signal attenuation courtesy of an old-school volume control. With the Sugden in his system, JCA noted "more ambiance with good recordings" than through his reference PS Audio preamp, but also "a touch less body." Overall, the Masterclass LA-4 "subtly illuminated the music" and "preserved subtle soundstage cues." JA's measurements uncovered lower-than-specified output impedance, thus indicating good compatibility with a variety of power amps, but a "disappointing" wideband S/N ratio. (Vol.42 No.4 WWW)

TOPPING PRE90: $599 PLUS $249 FOR THE EXT90 INPUT EXTENDER $$$

This affordable solid state preamplifier comes with a remote control and one pair each of balanced and unbalanced inputs and outputs. The optional $249 Ext90 adds one RCA and three XLR input pairs. Circuitry is all balanced. There's no balance control, but the volume control operates in relay-controlled 0.5dB steps. "A transparent, noise-free sound," decided KR, who described the Pre90 as "a great bargain." JA warned that the balanced input has very low impedance—1000 ohms—which will give a bass-light balance with source components that have a tubed output stage. But with its extraordinarily low levels of noise and distortion and very high channel separation, he concluded "the fact that that performance can be achieved in such a small chassis and for such a low price suggests that Topping has some serious audio engineering talent in-house." (Vol.45 No.2 WWW)

WOO AUDIO 3ES: $8999 (STANDARD VERSION)

See "Headphones & Headphone Accessories." (Vol.45 No.1 WWW)

ZESTO LETO ULTRA II: $11,900

This well-engineered, tubed line preamplifier offers single-ended, transformer-coupled balanced inputs and outputs. A unique "Presence" control knob applies high-frequency rolloff with five choices of corner frequency. KM liked what he heard, writing that the Leto Ultra II was one of very few preamplifiers he's had in house that in some ways equaled his long-term reference Shindo preamplifier. "Record after record, the Leto Ultra II's neutrality, transparency, and recovery of the last iota of sustain gave fresh insight into familiar recordings," he wrote, concluding that "Superbly clean and transparent, the Leto Ultra II's midrange-to–upper treble focus and lucidity was off the charts, giving fresh insight to familiar LPs. Silky and smooth, its tone was also good." In a Follow-Up, JCA explored the effect of the Presence control and found that the top three settings, which progressively roll off the top octave, were beneficial with recordings that had highs that had been balanced on the hot side. JCA was also impressed by the Leto's overall performance, writing: "This is a preamp that wears its tubed nature lightly, imparting a slight creaminess on the sound while giving up little in the way of transparency. Instrumental timbres remained natural and soundstage depth was preserved." (Vol.44 Nos.2 & 9 WWW)

B

FERRUM OOR: $1995

See "Headphones & Headphone Accessories." (Vol.45 No.2 WWW)

DELETIONS

Bryston BP-173, discontinued. Luxman CL-1000, not reviewed in a long time.

POWER AMPLIFIERS

A (SOLID STATE)

ACCUPHASE A-300 MONOBLOCK: $51,900/PAIR

"The more I listened to the A-300 monoblocks, the more I wanted to listen," wrote JVS about his time with a pair of these powerful amplifiers. (It is specified as delivering 125W into 8 ohms, 250W into 4 ohms, 500W into 2 ohms, and 1000W into 1 ohm.) The MOSFET output operates in class-A up to 125W into 8 ohms, 62.5W into 4 ohms, and 31.25W into 2 ohms. The A-300 has both balanced and unbalanced inputs; the gain and XLR polarity can be adjusted; and an operation-mode switch facilitates bridging and biamping. "As revealing and full range as the sound was," wrote JVS, "these amplifiers emphasized midrange warmth over top-end brilliance." He summed up the A-300 by writing "as much as the Accuphase A-300 Monophonic Power Amplifier deserves a Class A rating on our Recommended Components list, that classification only begins to capture how wonderful it sounds." On the test bench, the A-300 exceeded its specified powers, clipping at 210W into 8 ohms, 385W into 4 ohms, and 610W into 2 ohms. JA's conclusion: "The Accuphase A-300's measured performance indicates that it has no problem driving low impedances, and it offers very low distortion, especially into 8 ohms. It is also a very quiet amplifier, even at the highest gain setting." (Vol.46 No.12 WWW)

AYRE VX-8: $6800

The modest-sized, solid state VX-8 is specified as delivering up to 100Wpc into 8 ohms or 170Wpc into 4 ohms; JA measured clipping powers of 110Wpc into 8 ohms and 176Wpc into 4 ohms. It offers both balanced and single-ended inputs; in addition to the usual speaker outputs, which use Cardas binding posts, there are balanced and unbalanced subwoofer outputs. KM liked what he heard from the Ayre amplifier: "The VX-8 made familiar records new again. It wasn't so

An integrated amp, with the heart of an Aurender

Introducing a remarkable all-in-one audio component that paints every musical timbre with full-bodied realism. With elegance, finesse, power, and resolution, AP20 can replace an entire rack of audio gear while driving your favorite loudspeakers to their full potential.

Like all Aurender components, the bespoke digital playback engine and user experience take your journey through music to an industry-leading height of excellence. Experience the art of recorded music in its purest form with the AP20 – HiFi sound, without all the HiFi boxes.

- 200 WPC into 8Ω, 350 WPC into 4Ω
- Ultra-quiet linear power supply
- Analog stepped-attenuator volume control
- Aurender's finest DAC built-in
- OCXO precision clock
- Master clock input
- Analog inputs & outputs
- Digital inputs

aurender

sales@aurender.com; 888-367-0840

Aurender America Inc 20381 Lake Forest Drive, STE B-3 , Lake Forest, CA 92630

much casting recordings in a new light as digging deeper to reveal more of a recording's sonic architecture; a different kind of light induces a different reflection. What's more, the VX-8 made all the vinyl records I played sound more listenable, regardless of era or genre." KM's conclusion was that the VX-8 "commendably reproduces music of all genres while asserting its singular, special sound, as unique today, under the guiding hand of Ariel Brown, as with its originator, Charley Hansen." He gave it a "heartfelt, shout-it-from-the-rooftops recommendation." Both KM and JA commented that the VX-8 ran hot; JA warned that the amplifier's heatsinks' thermal capacity was only just sufficient for its power capability. (Vol.46 No.10 WWW)

BENCHMARK AHB2: $3499 $$$ ★

Named for the late Allen H. Burdick, the engineer whose work formed the basis for its design, Benchmark's AHB2 makes use of THX Corporation's Achromatic Audio Amplifier (AAA) technology, in which a low-power feed-forward amplifier drives a low-bias class-AB output section. In his listening tests, KR discovered "much more apparent low-level detail in already-familiar recordings"—a characteristic he credited to the Benchmark's evident noiselessness—and a tonal balance that "sounded more 'right' than any of [the other amps on hand]." In measuring the AHB2 and attempting to confirm its specified (very) high signal/noise ratio, JA observed nonlinearities in his testing equipment that "haven't affected the measured performance of other amplifiers I've tested, but they *were* detectable with the AHB2's very low intrinsic distortion and noise." His conclusion: "an extraordinary amplifier." In his Follow-Up report, JCA compared the AHB2 to his reference amp: "Although I preferred the AHB2's denser presentation of certain details, it's not clear to me which is truer to the source." One of Kal Rubinson's reference amplifiers. JA compared the AHB2 with a pair of Schiit Tyr monoblocks, writing that the Benchmark sounded a tad lighter-balanced—"clean, clear, transparent, yes, with terrific soundstage depth, but lighter." He also found the AHB2 to be a synergistic partner for Benchmark's high-resolution DAC3 B. (Vol.38 No.11, Vol.41 No.10, Vol.46 Nos.1 & 3 WWW)

BURMESTER 216 STEREO/MONOBLOCK: $35,000 EACH, $70,000/PAIR

This elegantly styled German amplifier uses internal heatpipes to optimize cooling and can be operated in conventional stereo mode or as a bridged monoblock. JCA found that as a two-channel amp the Burmester lacked any hint of "electrical" sonic character. "Piano notes sounded weighty, full, dense," he wrote, adding that the leading-edge transient "was fully there, to a degree I found quite natural, but the emphasis was on the rich core of the notes." But with two amplifiers in mono mode, the music "spread out more and seemed more relaxed. It didn't seem as loud. The difference wasn't subtle. Listening with two amplifiers was a more satisfying experience." JCA concluded that this may be the most self-effacing amplifier he's reviewed. "Its utter lack of electronic character is a huge plus. It's a musical chameleon." On the test bench, the 216 exceeded its specified power in stereo mode of 100Wpc into 8 ohms and 165Wpc into 4 ohms. In mono mode, the Burmester clipped at 330Wpc into 8 ohms and 500Wpc into 4 ohms. "The Burmester 216 offers very low distortion and noise and won't be fazed by having to drive low impedances," concluded JA. (Vol.47 No.1 WWW)

CH PRECISION M1.1 REFERENCE: $54,000, INCLUDING TWO INPUT CARDS ($2000 EACH); $108,000/PAIR ★

The Swiss-made CH Precision M1.1 is a modular solid state amp—the user can configure the amp for stereo or mono use, as well as for a choice of output-power-delivery modes—with a JFET front end and a class-AB output stage. A robust power supply built around a massive 2200VA transformer helps account for the M1.1's extraordinary (165lb) weight. MF, who found the amp's timbral balance to be very slightly on the warm side of neutral, was taken with a pair of M1.1s configured for mono, noting that their richness did not come with the penalty of softened transients and praising the amps' combination of bass depth and bass kick. In measuring the M1.1, JA observed that its performance on the bench was dependent upon the amount of global negative feedback dialed in (MF preferred the sound at 20%) and noted the amp's preference for loads higher than 2 ohms. In his Follow-Up of a single amplifier in stereo mode, JCA agreed with MF that the M1.1 has "powerful bass grip and remarkable slam." However, while he settled at 10% negative feedback, he was equally happy with no feedback. In contrast to Mikey's experience, JCA didn't find the bass soggy even with feedback set to zero. He also noted a remarkable sense of openness with this amplifier. "Well-separated instruments were laid out in an otherwise empty, blank space," he wrote, adding that the M1.1 sounded "powerful, muscular, [with] plenty of grunt, clear, open, spacious, relaxed." JCA's conclusion? "Highly recommended if you've got the cash. I wish I did." (Vol.42 No.7 WWW; Vol.47 No.3 WWW)

DAN D'AGOSTINO MOMENTUM M400 MxV MONOBLOCK: $79,500/PAIR

The M400 MxV Mono is the latest iteration of Dan D'Agostino Master Audio Systems' debut amplifier of 2011, the Momentum Mono. Featuring circuitry and active devices trickled down from the company's cost-no-object and weight-no-object Relentless amplifier, the MxV is specified as offering output powers of 400W into 8 ohms, 800W into 4 ohms, and 1600W into 2 ohms. (JA measured clipping powers of 442W into 8 ohms, 778W into 4 ohms, and 1050W into 2 ohms, though his wall voltage had dropped significantly at the latter two powers.) JVS exclaimed that with the monoblocks driving his Wilson Alexia V speakers, "the strength and quality of bass with the M400 MxV blew me away." The MxV's magic, however, was not limited to its bass, he commented. "Above its fine, true midrange, treble sounded less bright and forward on the M400 MxV than with the Progression M550." Overall, he wrote, the clarity and ease with which the MxV handles even the most challenging recordings is remarkable. "It is one of the most musical, truthful, satisfying amplifiers I've ever heard in my system and one of the most striking aesthetically." (Vol.46 No.6 WWW)

DAN D'AGOSTINO PROGRESSION M550 MONOBLOCK: $47,500/PAIR

This massive monoblock has balanced inputs only and requires a power cord fitted with a 20A IEC connector. JVS was impressed: "In addition to their far blacker space between notes, greater resolution of small details, and natural-sounding illumination, the Progression M550s consistently wowed me with their dynamic mastery." The latter is what one should expect from such a powerful amplifier: the M550 is specified as offering maximum powers of 550W into 8 ohms, 1100W into 4 ohms, and 2200W into 2 ohms. JA found that the amplifier met its specified power into 8 ohms, though the inevitable droop in his AC wall voltage meant that the M550 offered less power than promised into the lower impedances. JA was concerned by higher levels of distortion than he was expecting at moderate powers, which he ascribed to underbiasing of the 48 output-stage devices in the sample he was sent. Nevertheless, JVS concluded of his samples, which had had their output stage bias currents checked, that "For anyone who values colorful and glowing amplification that brings natural timbre and the subtlest of details and dynamic shifts to the fore while supplying a breathtakingly full measure of big-picture dynamics, slam, and top-to-bottom frequency response, the Progression M610s must be heard." (Vol.44 No.11 WWW)

DARTZEEL NHB-108 MODEL TWO: $53,000

This dual-mono, solid state power amplifier offers balanced and single-ended inputs plus the Swiss manufacturer's impedance-matched Zeel inputs. Nominal output power is 150Wpc into 8 ohms and 225Wpc into 4 ohms, which was confirmed by JA's measurements. No global negative feedback means that the distortion level is a little high, at 0.1%, but not only is the distortion signature predominantly the subjectively innocuous second harmonic, notably the level of the distortion doesn't change with frequency or power (up to actual waveform clipping). "Detail was remarkable," noted JVS, remarking, "Welcome to the rare amp that manages to reveal the smallest details without sounding etched, hyperdetailed, or unnatural. Ever." He felt that the only thing lacking was stronger and tighter bass compared to his reference D'Agostino monoblocks. Still, JVS wrote, the darTZeel was among the most satisfyingly musical amplifiers ever to sing in his system, concluding, "There is an inherently nonmechanical, organic flow to the NHB-108 model two's golden sound that will keep enticing many a music lover back for more." (Vol.45 No.3 WWW)

ELECTROCOMPANIET AW 800 M STEREO/ MONOBLOCK: $22,500 EACH, $45,000/PAIR

The AW 800 M is a hefty class-AB design that can be operated as a conventional stereo amplifier or as a monoblock. Specified maximum power in stereo mode is 300Wpc into 8 ohms and 600Wpc into 4 ohms. In mono mode, it is 800W into 8 ohms, 1500W into 4 ohms, and 2200W into 2 ohms. The output stage bias is set so that approximately the first 10W into 8 ohms operates in class-A. JVS's notes after auditioning a pair as monoblocks mentioned "seductively veiled sound, midrange warmth, a sense of power and rock-solid and marvelously strong bass." In the test lab, the AW 800 M, in stereo mode with both channels driven, didn't quite meet its specified powers, clipping at 290Wpc into 8 ohms and 460Wpc into 4 ohms. In mono mode, however, the Electrocompaniet clipped at a massive 1kW into 8 ohms. "With its very low levels of noise and distortion and its very high powers, the Electrocompaniet AW 800 M is a veritable paradigm of modern solid state amplifier design," JA summed up. (Vol.46 No.10 WWW)

EMM LABS MTRS: $65,000

See Jason Victor Serinus's review in this issue. (Vol.47 No.4)

ESOTERIC GRANDIOSO M1X: $71,000/PAIR

This massive Japanese class-AB solid state amplifier has single-ended, balanced, and Esoteric's proprietary ESL-A inputs and offers specified maximum powers of 300W into 8 ohms and 600W into 4 ohms. It exceeded those powers in the test lab, JA measuring 340W into 8 ohms and 620W into 4 ohms. JVS found that the M1X requires a very long warm-up period, but at the end of that time he commented that the sound was natural, relaxed, alive, and convincing. "Percussion had gratifying presence on a wide soundstage," he wrote, "and was correctly colored." Bass was "prodigiously powerful," the midrange "smooth, captivating," and fatigue free. "Its burnished sound flows effortlessly even through complex passages, and its somewhat laid-back presentation, from top to bottom, helps expose fine detail," he concluded. (Vol.46 No.4 WWW)

GRYPHON APEX STEREO: $103,500

A massive (445lb), dual-mono solid state amplifier that has an output stage that can be biased into class-A operation up to high powers. MF found that with his Wilson XVX speakers, the Apex Stereo's ease of presentation was immediately obvious. He commented on the amplifier's overall, top-to-bottom speaker grip: "Everything in familiar music appeared better organized, timed, and settled, without restricting the musical flow. ... The Apex takes grip and musical flow to a higher level, particularly in the upper bass through the lower midrange." JA found that the Apex Stereo exceeded its specified powers of 210Wpc into 8 ohms and 420Wpc into 4 ohms, clipping at 240Wpc into 8 ohms and 450Wpc into 4 ohms. Even though the left channel was slightly noisier than the right and offered higher, though still low, levels of distortion, the Gryphon Apex "offers high power coupled with a wide bandwidth and primarily low levels of low-order distortion," he concluded. (Vol.45 No.9 WWW)

GRYPHON ESSENCE MONO MONOBLOCK: $46,400/PAIR

This massive solid state amplifier from Denmark has an output stage that can be operated in class-A or class-AB. JVS very much preferred the sound in class-A, writing that with the Lorraine Hunt Lieberson Wigmore Hall recital album, "Words cannot describe the alchemical transformation wrought by the Gryphon Essences on this remarkably air-filled recording." Even so, he did use words to sum up his time with the Gryphon Monos: "Although fully capable of conveying the entire frequency range, even through speakers that bring some modestly powered amplifiers to their knees, they cannot convey the huge dynamic swings and

Accuphase

INFLATION

NEW LOWER PRICING, SAME PRECISION & QUALITY.

Seems like the price of everything is going up lately. But not here. We're excited to be rolling out new, inflation-crushing prices in the United States. Visit **accuphase.com,** then head to your nearest Accuphase dealer to experience impeccable quality sound and shop the new pricing that's as much as 25% less.

AXISS AUDIO

ACCUPHASE | BEAUDIOFUL | FRANCO SERBLIN | GAUDER AKUSTIK | NIHON ONKYO ENGINEERING
REED | SHELTER | SOULUTION | TRANSROTOR | YUKISEIMITSU AUDIO | ZENSATI | AIRTIGHT

Go to **axissaudio.com** to find an Accuphase dealer near you.

minute details that some more powerful beasts command. But on music that touches the heart, they can transport to a realm where few components know to go." Specified maximum power is 55W into 8 ohms, 110W into 4 ohms, and 220W into 2 ohms. JA found a small shortfall in clipping power, but the Essence Mono's distortion was very low at typical output powers. (Vol.43 No.12 WWW)

JMF AUDIO HQS 7001 MONOBLOCK: $77,000/PAIR
After this powerful French amplifier—specified power is 300W into 8 ohms, 500W into 4 ohms, and 850W into 2 ohms—had warmed up, JVS found it offered "extremely colorful and neutral sound" that made him want to listen more and more. The JMF Audio HQS 7001 "is especially adept at putting music front and center without injecting commentary," he concluded, adding that the HQS 7001 "is a bit like the fine wine whose bouquet you can't describe other than to say that your meal was divine in part because you sipped it." In the test lab, the JMF amplifier slightly exceeded its specified powers and offered measured performance that was typical of a high-power, solid state design with a class-AB output stage. Distortion will be lowest into 8 ohms, noted JA, who also warned that this amplifier's heatsink only has just enough thermal capacity for its rated power. (Vol.47 No.2 WWW)

KARAN ACOUSTICS POWERA MONO: $106,000/PAIR
Weighing an extreme 231lb, each Serbian POWERa Mono contains two 2700VA toroidal transformers, a 210,000µF bank of custom capacitors, and requires two power cables. Though the amplifier is specified as outputting 2.1kW into 8 ohms, 3.6kW into 4 ohms, and 6kW into 2 ohms, this won't be achievable with US household power, even if each of the two power cords is on its own circuit. JA measured clipping powers of 1.85kW into 8 ohms and 2.5kW into 4 ohms, both powers lower than the specified figures, as his wall voltage had dropped by several volts with the amplifier clipping. The Karan's output stages operate in sliding-bias class-A; as a result the amplifier runs relatively cool. The Karan Mono incorporates switchable DC power filtering—JVS preferred the performance with this engaged: "the sound was even smoother, the noisefloor lower, the top-to-bottom focus tighter. The POWERa's internal power conditioning allowed the inner glow of instruments and voices to emerge with no sense of dynamic constraint." Overall, JVS concluded that "For visceral impact, swiftness of attack, and sheer, apparent accuracy, the POWERa monoblocks top every other monoblock, stereo amp, or integrated I've reviewed. Ditto for color saturation, shading, dynamics, and the ability to portray the most complex passages without a hint of compression." (Vol.46 No.5 WWW)

KRELL KMA-I800 MONOBLOCK: $73,000/PAIR
Specified as outputting 800W into 8 ohms, 1600W into 4 ohms, and 3200W into 2 ohms, the KMA-i800 uses a proprietary output stage bias technology, called iBias, which is said to provide class-A operation without the usual heat penalty. JVS found that the amplifiers ran cool and sounded noticeably warm, full, and well-controlled. While he doubted he used more than a fraction of the KMA-i800s' specified power into 4 ohms, they delivered sound "whose fullness, dynamic range, speed, clarity, and resolution rivaled that of the finest amplifiers I've been privileged to review. Without question, they are a top-rank product." JA found that the big Krell clipped at 930W into 8 ohms and 1500W into 4 ohms and that it offered very low levels both of noise and of primary third-harmonic distortion. (Krell's Sym-Max technology is applied throughout the amplifier to reduce second-order harmonic distortion at every stage.) (Vol.47 No.3 WWW)

LKV PWR-3: $3350 $$$
With a specified output of 175Wpc into 8 ohms, 360Wpc into 4 ohms, and 220Wpc into 2 ohms, this discreet-looking amplifier combines proprietary, zero-feedback voltage-gain circuitry with Purifi Audio's 1ET400A class-D output modules and a switching power supply. KM wrote that the PWR-3 produced "a spooky quiet, which can probably be attributed to low distortion and noise, in the audible range at least. (Both were confirmed by JA in the test lab.) The PWR-3 "presented a deep soundstage with luxurious spaciousness," found KM, adding that "a walloping, tight low end was balanced by clean mids and a clear, silken treble." His conclusion? "It's a sweet-sounding amplifier with a penchant for making instruments sing." JA noted that the LKV amplifier exceeded its specified powers. He concluded that the PWR-3 offer high power coupled with very low noise and primarily low-order distortion and that its linearity was independent of load impedance, commenting that this was both unusual and commendable. (Vol.45 No.9 WWW)

LKV RESEARCH VEROS PWR+: $10,000
This surprisingly massive, American-made amplifier powers its Purifi class-D output stage modules with a hefty linear power supply utilizing a hefty 1kVA toroidal transformer and two smaller transformers. Front-end and driver circuitry is based on paralleled discrete devices biased into class-A. HR wrote that "the class-D LKV amp played equally rich and atmosphere-soaked through the entire audio band. It did atmospheric dreamy like class-A does atmospheric dreamy." He found that every recording he played with the Veros PWR+ sounded "richer and wetter (atmospherically) than class-D is supposed to." In the test lab, the LKV amplifier exceeded its specified power of 200W into 8 ohms, clipping at 221Wpc with both channels driven, while it delivered the specified 400Wpc into 4 ohms. With one channel driven, the clipping power into 2 ohms was 505W. Noise and distortion levels were both very low, and the distortion signature was almost pure third-harmonic in nature. (Vol.43 No.9 WWW)

LUXMAN M-10X: $19,995
JA found that this elegant-looking amplifier exceeded its specified power, clipping at 202Wpc into 8 ohms and at 350Wpc into 4 ohms. Noise, interchannel crosstalk, and all types of distortion were very low. He was also impressed by its sound quality, though he noted that he found it difficult to discern an identifiable character that the amplifier was imposing on the music. "With all types of music," he wrote, "the midrange was clean, uncolored, and detailed. The highs were also clean, with no emphasis or sibilance on the sound of cymbals. Low frequencies were articulate, and—I have to return to this word—clean." He summed up the month he spent with the M-10X by writing that it got very close to the late Peter Walker's definition of the role of a perfect power amplifier as being "a straight wire with gain," neither subtracting from the signal it was amplifying nor adding to it. (Vol.45 No.5 WWW)

MCINTOSH MC462: $10,000 ★
As of this writing the most powerful stereo amplifier in the McIntosh line, the solid state MC462 is rated at 450Wpc into 2, 4, or 8 ohms, and weighs a floorbending 115lb. The output section is class-AB, designed so that each individual phase of the signal waveform is amplified by a complete push-pull output section; there are two complete push-pull amps in each channel, their outputs combined—using autoformers—in what McIntosh refers to as a Quad Balanced architecture. SM praised the Mac for delivering, without strain, a piano sound faithful to the original, for portraying brass instruments, drums, and other instruments with appropriate force, impact, and, when called for, swing. As for value, SM opined that "$9000 is more than fair for the excellence delivered." Reporting from his lab, JA declared that the MC462 is "an extraordinarily well-engineered, exceptionally powerful amplifier." SM bought the review sample. (Vol.42 No.5 WWW)

NAD C 298: $2399 $$$
An affordably priced, powerful—185Wpc into 8 ohms. 340Wpc into 4 ohms—utilitarian-looking, class-D stereo amplifier based on the Purifi-Eigentakt output modules used in NAD's more expensive M33 and M28. The C 298 features balanced and single-ended inputs, variable gain, and can also be operated in bridged-mono mode. KR found that a pair of bridged-mono NADs offered explosive dynamics without breaking a sweat—JA measured the clipping power into 8 ohms in this mode as 980W! "The NAD C 298 is a transparent, uncolored, powerful stereo power amplifier," concluded KR, adding that even in stereo mode it can easily drive most speakers "to levels that exceed domestic tranquility." Measuring man JA commented that the C 298 continues NAD's tradition for conservative and competent engineering but "sets a new standard for combining very high power with supremely low distortion." (Vol.44 No.6 WWW)

NAIM CLASSIC 200 SERIES NAP 250: $8999
The latest version of the English manufacturer's groundbreaking power amplifier now has true balanced inputs as well as the older amplifier's unbalanced inputs and offers more power, at 100Wpc into 8 ohms and 190Wpc into 4 ohm, both with both channels driven. (JA measured clipping powers of 110Wpc into 8 ohms and 195Wpc into 4 ohms.) Compared with the older NAP 250 DR, MC was shocked and even confused by the latest iteration. "This was so obviously a new sound, fresh and open, clear and transparent, in the low bass and the upper frequencies," he wrote. "There was now an extra clarity to the soundstage, increased depth and width, but also a sense of enhanced spatiality. ... The virtual soundstage was significantly enlarged, with more stability and solidity and crisper focus than before. There were also obvious gains in ambience and image depth." MC concluded that the NAP 250 "is loudspeaker-load tolerant and offers unusually high electrical efficiency. It is undoubtedly a front-line performer." JA concluded that "Naim's NAP 250 offers relatively high power with low noise and very low, predominantly second-harmonic distortion in a modest-sized chassis. But it needs to be well ventilated." (Vol.46 No.11 WWW)

PARASOUND A 21+ HALO: $3999
The successor to the Parasound A 21, the new A 21+ offers 300Wpc into 8 ohms, compared with its predecessor's 250Wpc—and the new model, which operates in class-AB, can be bridged to serve as a 1000W monoblock. Other refinements include a gruntier power transformer, brawnier speaker connectors, an increase in power-supply filter capacitance, and other niceties. Balanced (XLR) and unbalanced (RCA) inputs are both provided, as are dual-mono level controls. According to KR, "listening to the A 21+ was eminently delightful and satisfying from the first note," and he pointed to the new amp's "transparency without highlighting or emphasis" and the manner in which it handled dynamic challenges in orchestral music "without stress." Technical Editor JA found that the A 21+ exceeded its power specs, delivering a full 400Wpc into 8 ohms, and noted that the amp "isn't fazed by impedances as low as 2 ohms." HR's reference solid state amplifier. (Vol.43 No.3 WWW)

PARASOUND JC 1+ HALO: $19,998/PAIR
A replacement for the long-term "Recommended Components" resident, the original Halo JC 1, the 1+ represents designer John Curl's further thoughts on this powerful solid state monster. While more expensive in real terms than its predecessor, the Halo JC 1+ is 30% heavier, still heavily biased into class-A, and offers slightly more power than the original amplifier: 450W into 8 ohms, 850W into 4 ohms, and 1300W into 2 ohms. Bass guitar and kickdrum were reproduced with appropriate force and definition, felt JA, exclaiming, "Low-frequency power and delicacy!" JA was also impressed by the pair of monoblocks' ability to differentiate soundstage depth and described the Parasound's high frequencies as sounding "more like what I experience from a good tube amplifier." "This is a superb-sounding amplifier that will get the best from every loudspeaker with which it is partnered," JA concluded, adding "Well done, Mr. Curl." On the test bench, the Halo JC 1+ exceeded its specified power into 8 ohms, clipping at 500W. It didn't quite meet its specified power into lower impedances, clipping at 830W into 4 ohms and at 1200W into 2 ohms, though JA did note that the slight shortfall was due to him not holding the AC wall voltage constant in the testing. Commendably, the JC 1+'s distortion was predominantly the subjectively innocuous second harmonic, though at a very low level. (Vol.43 Nos.6 & 7 WWW)

PASS LABORATORIES XA25: $5150 ★
The lowest-priced amplifier in Pass Laboratories' XA series, the XA25 strips away all inessentials—front-panel meters, balanced inputs, excessive output power—and provides the listener with a three-stage amplifier in which output power is generated by a single pair of transistors per channel, operating in push-pull class-A. Output is specified as 25Wpc into 8 ohms or 50Wpc into 4 ohms. HR tried the Pass with a great variety of speakers, starting with a rebuilt pair of original Quad ESL electrostatics: "Through the Quads, the XA25 radically improved the tactile presence of music and musicians,

their voices and instruments," he wrote. "It made the Quad's legendary midrange more solid, dynamic, and well defined than I'd ever thought possible." Another, very different panel speaker came next: "Driven by the Pass Labs XA25, the Magnepan .7s did real-life natural with ease and élan." Additionally, HR found, "bass weight and organ power were well reproduced by a speaker not famous for these traits." But even that pales in comparison to Herb's adventures using the Pass amp to drive his DeVore Orangutan O/93s: "I began to realize that the XA25 is the most transparent amplifier I've ever heard." His verdict: "reasonably priced, strong beyond its power rating, and positively revelatory." Writing from his laboratory, JA noted that the Pass far exceeded its rated power output, concluding that "the XA25 performed well on the test bench, as I've come to expect from Pass Labs." (Vol.41 No.2 WWW)

PASS LABORATORIES XA60.8 MONOBLOCK: $14,250/PAIR ★

In reviewing Pass Laboratories' solid state XA60.8 monoblock amplifier, JCA echoed JA's earlier published response to the amp's predecessor, the XA.60.5: "the best amplifier I've heard." Each 88lb XA60.8 operates in pure class-A, made possible in part by the amp's massive aluminum heatsinks and no-less-massive steel mains transformers. (Indeed, the most obvious change from XA60.5 to XA60.8 is a weight increase of 22lb—per channel.) Output is specified as 60W into 8 ohms, doubling to 120W into 4 ohms. JCA thought the Passes sounded "sweeter, warmer, more delicate" than the more expensive monoblocks that preceded them in his system but reserved his greatest praise for their spatial prowess: "I'd never heard an amplifier make such an obvious difference. ... To walk into this room while a good recording was playing was to enter an immersive aural space." JA, now acting as measurer rather than reviewer, wrote from his test bench that the "well-engineered" XA60.8 "considerably exceeded" its rated output power, delivering 150W into 8 ohms at 1% THD, and he praised its A-weighted signal/noise ratio of 93.6dB: "This is a quiet amplifier." JCA's conclusion: "I am smitten." (Vol.40 No.12 WWW)

PRIMARE A35.2: $3900

This hefty Danish amplifier uses what Primare calls their "proprietary UFPD2 analogue class-D amplification technology" to deliver 200Wpc into 8 ohms. According to the manufacturer, UFPD2 integrates the class-D output stage and the necessary low-pass filter, "making control with feedback much more immediate and accurate." HR found that with his Magnepan .7 speakers, the A35.2 sounded very similar to the slightly more expensive Bel Canto REF600M class-D monoblocks. He wrote that the A35.2 "gripped the Magnepans' diaphragms with greater control and force than either the class-A Pass Labs XA25 ($4900) or the $3495 all-tube, class-AB Rogue Stereo 100 (in Ultralinear mode). This control delivered a tauter, more rhythmic bass." With Harbeth M30.2 speakers, HR found that the Primare's high frequencies were "crisp and super-clear—but not luxuriant and engaging." On the test bench, the Primare exceeded its specified powers, clipping at 225Wpc into 8 ohms and at 460Wpc into 4 ohms. One of Herb's references. (Vol.43 No.5 WWW)

PS AUDIO STELLAR M1200 MONOBLOCK: $6998/PAIR

This slim, powerful amplifier—specified power is 600W into 8 ohms, 1200W into 4 ohms—combines a gain stage that uses a single Psvane 12AU7-TII tube with an output stage based on a class-D output module from ICEpower. MF was impressed by what he heard, writing, "It's no surprise that this superquiet class-D amplifier excels on bottom. Bass is what class-D was originally built for. ... The M1200's ability to couple with, control, and drive the woofers of my Wilson Alexx loudspeakers matched that of any amplifier I've had here." The M1200 was as fast, precise, and clean from the mids on up as it was in the bottom octaves, he decided, adding that this "helps ensure a bottom-to-top rhythmic coherence and transparency that lets you 'see' into the farthest reaches of the soundstage." Compared with his cost-no-object reference darTZeel amplifiers, he noted a lack of microdynamic delicacy, and timbral verisimilitude was dependent on the recording being played. Summing up, MF wrote: "Maybe the M1200s were just too fast for their own good. After the superclean attack, they went right for the too-fast decay and missed the sustain. While that often leads to 'skeletal' sound, the M1200s never delivered bones, because the transients were never edgy or nasty. They were natural and just right." On the test bench, the M1200 offered low levels of primarily third-harmonic distortion and met its specified output power. (Vol.44 No.1 WWW)

ROTEL MICHI M8: $15,999.98/PAIR

The massive Michi M8 monoblock weighs 130.3lb. "I should have known that a class-AB amplifier said to deliver 1080W into 8 ohms and 1800W into 4 ohms would be heavy," wrote MF. Designed by an engineering team with members based both in Japan and in the UK, the superbly well-made M8 is manufactured in China. Mikey didn't just like it, Mikey loved it: "The M8 doesn't sacrifice transparency or well-articulated transients to achieve a sweet disposition." On the test bench, the M8 offered excellent measured performance, though both its balanced and unbalanced inputs inverted absolute polarity. Oh, and that enormous rated power? JA measured clipping powers of 1020W into 8 ohms and 1500W into 4 ohms, which should be more than enough for even the lowest-sensitivity speakers. (Vol.44 No.7 WWW)

ROTEL MICHI S5: $7999.99

A relatively affordable, fan-cooled, dual-mono, class-AB amplifier that weighs 132lb and is specified as offering a maximum continuous power output of 500Wpc into 8 ohms and 800Wpc into 4 ohms. JVS commented on the Michi S5's "absolute authority, natural timbres, and ability to convey acoustic space realistically." Compared with his six-times-the-price monoblocks, JVS decided that the S5's soundstage was narrower and slightly less deep, the bass was less strong and controlled, and the treble was less extended. However, the S5 sounded "more transparent, with blacker blacks." In sum, JVS wrote that the S5 deserves a Class A listing in Recommended Components with $$$ (for value) beside its $7499.99 price. "It's that good." In the test lab, the S5 exceeded its specified power, clipping at 570Wpc into 8 ohms and 940Wpc into 4 ohms. "The Rotel Michi S5 combines high power with a wide bandwidth, low noise, and very low, primarily even-order distortion," summed up JA. (Vol.45 No.7 WWW)

SCHIIT AUDIO TYR: $3198/PAIR

Instead of the ubiquitous high-value capacitors, the US-made Tyr monoblock amplifier uses a hefty inductor or choke to smooth its power supply's rectified DC voltages. The Tyr's output stage features a constant-transconductance topology called "Continuity," which Schiit says offers the benefits of class-A biasing for the 24 bipolar output devices but with greater efficiency than class-A. JA found that the Tyr offered grain-free highs and an excellent sense of low-frequency drive and weight, if not quite up to the level of the much-more-expensive Parasound monoblocks. Compared with the Benchmark AHB2, the Schiit monoblocks had better low-frequency clarity, though he also noted that while the pair of Tyrs excelled at reproducing recorded space, they were slightly less transparent, with a little less soundstage depth. In the test lab, the Tyr exceeded its specified power, clipping at 252W into 8 ohms and 360W into 4 ohms. JA concluded that the Tyr is a perfect example of a thoroughly modern solid state amplifier: "It offers high power, is not fazed by low impedances, sounded superb with the three pairs of loudspeakers that I used for this review, and is competitively priced. Strongly recommended!" (Vol.46 No.1 WWW)

A (TUBE)

DOSHI AUDIO EVO MONOBLOCK: $43,995/PAIR

The EVO (for "Evolution") replaces Doshi's Monoblock V3.0 that JVS reviewed in Vol.41 No.11 and that had been in production for seven years. The amplifier still employs a pair of Tung-Sol KT150 output tubes for each channel, but changes include a machined-aluminum, constrained-layer top panel, a stiffer chassis, passive power correction, improved capacitor and resistor quality, and "slight" circuit changes to increase the amplifier's small-signal bandwidth. With a violin recording and at 170mV bias, the EVO monos driving Wilson Alexia 2 loudspeakers "beautifully conveyed the violin's intermingling of horsehair, resin, and steel," but the recommended bias of 190mV "rendered the sound too warm and pleasant." The class-AB EVO is specified as outputting up to 160Wpc into 4 ohms, the first 120Wpc in class-A. At the amplifier's recommended bias setting of 190mV, JA measured 107W into 8 ohms and 127W into 4 ohms from the single output transformer tap at 1% THD+N, though relaxing the clipping criterion to 3% THD+N increased the maximum power into 4 ohms to 153W. The output impedance was commendably low for a tube design—0.54 ohm at low and middle frequencies and still 0.67 ohm at the top of the audioband. "The Evolution Monoblock power amplifier's measured performance indicates conservative audio engineering, a superb output transformer, and the ability to deliver high powers into relatively low impedances," JA concluded. An NOS Tube Upgrade package, which JVS recommends, adds $500 to the price. (Vol.44 No.5 WWW)

FELIKS AUDIO ARIOSO: $7495

When HR replaced his reference solid state amplifier, the high-power Parasound Halo A 21+, with the Feliks Arioso, which offers 8Wpc with its Electro-Harmonix EH Gold 300B output tubes, he shook his head in disbelief at how radically different a track from old-time country blues singer Turner Junior Johnson sounded. What really got him, with the Arioso's 8 ohm taps driving Falcon's 15 ohm "Gold Badge" LS3/5as, was how Turner appeared to be directly there in front of him "with a definite tangible humanness" that he had not noticed with the Parasound. "The Arioso appeared to recover some extra amount of low-level information," he felt, though he added that the Feliks did not sound warmer, fuzzier, blurrier, more distorted, or more euphonic than the Parasound. "It did not emphasize the midrange or roll off the frequency extremes. It was simply more transparent," he decided. With the 10 ohm DeVore Fidelity Orangutan O/93s driven by the Arioso's 8 ohm output taps, he felt that the sound was not as rich of timbre or as bitingly textured as he thought it should sound. But when he connected the DeVores to the Arioso's 4 ohm taps, "the sound displayed a more grain-free clarity. Colors became more saturated. The sound felt more correct." HR summed up this experience: "The lesson here is: If you have a tube amp that offers multiple output taps, never assume 8 ohms to be 8 ohms, or 4 ohms to be 4 ohms. Try them all and choose the one that pleases you most." Replacing the stock Electro-Harmonix 300Bs with the new Western Electric 300Bs, the Feliks Arioso's 50Hz–1kHz octaves were more brilliantly lit and refraction-free than with the stock tubes, and the bass with the WEs was more tightly damped than with other 300Bs. (Vol.44 No.8 WWW)

MANLEY LABORATORIES MAHI MONOBLOCK: $6599/PAIR

This unusually styled push-pull monoblock uses four EL84 tubes, which can be operated in pentode mode, offering 40W into 8 ohms, or triode mode, offering 20W into 8 ohms. AH noted that triode mode increased the clarity (though not the colorfulness) of the already very clear-sounding Mahi, but he kept returning to the pentode setting "for a little more grunt and, more importantly, fun." AH felt that the robustness and speed of the power supply harnesses the EL84's "perky, friendly, approachable sound" to create an amplifier with all the musical awesomeness of tubes but very little flavor of their own. Three levels of global negative feedback are available. With the pair of Mahis connected to Klipsch La Scalas, AH found that while increasing the amount of feedback firmed up the bass response and beefed up power output, this was at the expense of liveliness and color. He much preferred the minimum setting of 3dB of negative feedback, which allowed for the most vivid sound and explicit emotional connection while keeping a firm hand on the bass. He summed up the Mahis by writing "if your speakers and room can make a big noise with 40 watts, then these petite but never petite-sounding amplifiers will probably delight you, doing justice to all but the most ambitious systems." (Vol.46 No.10 WWW)

OCTAVE JUBILEE MONO SE: $80,000/PAIR

The German manufacturer's flagship amplifier weighs 145.5lb. It uses three ECC82 small-signal tubes and eight

MOMENTUM MxV INTEGRATED AMPLIFIER

THE ULTIMATE INTEGRATED

THE MOMENTUM MxV INTEGRATED AMPLIFIER by Dan D'Agostino Master Audio Systems achieves a level of performance and refinement that was never before possible in an integrated component. Combining the front-end technology of the Momentum HD Preamplifier and the power section of the Momentum MxV Amplifier, it delivers Momentum Series performance in a compact framework whose elegant design only hints at the advanced circuitry within.

Incorporating recent advancements in the Momentum Series, the Momentum MxV Integrated Amplifier expresses the fullest potential of a single-chassis solution. The line-stage section can be augmented by a field-upgradable digital streaming module, as well as a phonostage with variable loading for MC cartridges. The result is a seamless circuit from input to output, possessing the authoritative power capable of commanding any loudspeaker.

Created for listeners who demand the uncompromising D'Agostino signature in a single component—one that is elegantly conceived and impeccably crafted—the Momentum MxV Integrated Amplifier promises an unequalled audio experience.

Dan D'Agostino
MASTER AUDIO SYSTEMS

dandagostino.com

© 2023 DAN D'AGOSTINO MASTER AUDIO SYSTEMS, LLC. ALL RIGHTS RESERVED.

KT-120 output tubes operated in pentode mode, each of which can be biased individually. The single output transformer tap is said to be optimized for loads averaging between 3 and 12 ohms. JVS found that with the output tube bias set to "1125," "the background was dead silent, an absolutely blank canvas from which colors blossomed forth like flowers in springtime. The sound had irresistible natural warmth—that thrilling, indefinable liquidity that makes audiophiles melt." Low frequencies sounded tight and convincing but not quite equal in impact with his challenging Wilson Alexia 2 speakers as with the solid state D'Agostino Progression M550s. With the bias set to "1250," the Jubilee Monos produced a huge soundstage. JVS concluded that "most music lovers will find its bass convincingly complete and natural, its midrange marvelously full and smooth, its highs heavenly. Unique among tube amplifiers in size, topology, stunning silence, and durability, the Mono SE will beckon to those who can afford it." On the test bench, the Octave amplifier's source impedance was a relatively high 2–4.5 ohms and the Jubilee Mono didn't quite meet its specified power of 400W into 4 ohms, clipping (3% THD+N) at 380W into that load. JA commended the Jubilee Mono for its low levels of distortion at moderate powers into higher impedances, coupled with its benign distortion signature and its low levels of noise. However, he doesn't recommend the Octave for use with loudspeakers whose impedance drops below 4 ohms. (Vol.45 No.9 WWW)

B

ELAC ALCHEMY DPA-2: $1749.98
A skinny, 14lb device from the Americas division of ELAC Germany, the DPA-2 was designed by veteran engineer Peter Madnick. Its output stage uses Hypex UCD class-D modules, which Madnick prefers to the more recent Purifi-Eigentakt modules. Balanced and single-ended inputs are available, and the gain can be increased by 6dB. Although the Alchemy DPA-2 is a stereo amplifier, JVS auditioned it as a pair of bridged monoblocks, commenting that in this mode they were "the finest low-priced power amplifiers I've encountered." "What caught me off guard, and pleasantly, was the wide range of color I heard from these inherently musical amps," he added, concluding that "Peter Madnick has exceeded his goal 'to provide the kind of real-life transparency and clarity that you would not expect at this price point.'" Maximum power is specified as 325Wpc into 4 ohms in stereo mode—JA measured 339W into 4 ohms and 202W into 8 ohms at 1% THD+N. As a bridged monoblock, the "powerhouse" DPA-2 delivered 590W into 8 ohms and 550W into 4 ohms. (Vol.44 No.6 WWW)

ELEKIT TU-8600RS: $2080 AS REVIEWED ($1695 BASIC VERSION)
As the name suggests, the EleKit TU-8600R is a build-it-yourself power amp, a single-ended design that uses one 300B directly heated output tube per side for a specified output of 9.2Wpc at 10% THD. (A preassembled version is available at extra cost.) Prices start at $1185 without tubes and top out at a $2985 version that includes Lundahl output transformers and deluxe German-made Elrog 300B tubes. HR tried a variety of 300Bs in his Lundahl-equipped review sample and praised the EleKit for sounding not warm and soft but "fast and vigorous, as transparent as any amplifier, and extremely captivating," with a sonic character that's "clean, neutral, and precise." HR's conclusion: "This is what I call value for money." Other kits are available, but availability is sporadic. In his May and August 2021 Gramophone Dreams, HR used the Elekit TU-8600S as a platform for comparing different 12AX7s and 300Bs. He later compared the Elekit fitted with Linlai Cossor WE300B tubes to the EL34-fitted Lab12 Mighty with a Dietrich Fischer-Dieskau LP. HR noted that the Mighty emphasized the immediacy and raw texture of the upper octaves, while the Elekit directed his attention to beauties in the baritone's mid and lower octaves. (Vol.42 No.4, Vol.44 Nos.5 & 8, Vol.46 No.1 WWW)

LAB12 MIGHTY: $2290
This Greek amplifier uses just two tubes per channel: a 6N1P dual triode feeding a Russia-made Electro-Harmonix EL34 power tube operating at fixed bias. The Mighty's output transformer has separate taps for driving 8 or 4 ohm speakers, and the single EL34 can be operated in either triode or Ultralinear modes. Power is specified as 8–9W depending on tube, with 10%–15% more power available in Ultralinear mode. HR commented that the Ultralinear Mighty "played waltzes and reggae with Leica-lens focus and a thinner-than-water flow" and noted the sound's "surprising physicality." In triode mode, the presentation "became more pure by several notches—and also more color-saturated." Compared with the 300B-fitted Elekit TU-8600S, the EL34 Mighty in both UL and triode modes "played with crisper, more conspicuously detailed clarity, which distributed charged energy across a well-constructed, shallower sound matrix." "The Mighty is an exciting-to-use, paradigm-shifting treat," concluded HR. (Vol.46 No.1 WWW)

LSA DISCOVERY WARP 1: $1499
This small design features a class-D output stage based on Texas Instruments TPA3255 chip. An "over-specified" switch-mode supply supplies the power. Though both single-ended and balanced inputs are provided, balanced operation is preferred. Internal DIP switches allows the driver-stage gain to be optimized for a specific system. The switches are labeled "0dB," "6dB," 14dB," and "20dB," with "6dB" the default setting. TF ended up with "0dB," when the amplifier offers 20dB of voltage gain, because he likes to use his Benchmark LA4 preamplifier with less attenuation. Driving TF's big B&W 808 speakers, which don't need a ton of amplifier power, but do need an amplifier that can push the power through with speed and authority, the Warp 1 delivered the goods. "My favorite rock, soul, blues, and funk tunes took on full-bodied punch that made the beat stand out and got feet tapping," he wrote. In the test lab, though the Warp 1 offered respectable measured performance, it didn't quite meet its specified output power of 150Wpc into 8 ohms and 250W into 4 ohms. With both channels driven and with clipping defined as when THD+noise reaches 1%, JA measured clipping powers of 110Wpc into 8 ohms 165Wpc into 4 ohms. (Vol.46 No.7 WWW)

MYTEK BROOKLYN AMP+: $2495
A change in the facility that manufactures Mytek products led to the company's entire component lineup being revised. The Brooklyn AMP+ is the first of the new-generation products to be reviewed, replacing the AMP that KM reviewed in Vol.41 No.9. Compared with the original amplifier, the AMP+'s clarity "facilitated better microdynamics, those small dynamic shifts that make reproduced sound more lively and more live," noted KM, adding that the AMP+ dispenses with the AMP's overt midrange lushness. "The AMP+'s upper midrange and treble were decidedly cleaner while maintaining just a touch of richness." Compared with the Parasound Hint 6 Halo, the Parasound presented an even deeper and more layered soundstage than the Mytek. On the other hand, the AMP+ sounded more sensuous with more low-end force. The AMP+'s class-D output stage is based on modules from Danish company Pascal and offers specified maximum powers of 250Wpc into 8 ohms, 300Wpc into 4 ohms, and 400Wpc into 2 ohms. JA found that the clipping power with both channels driven was 265W into 8 ohms. However, the Mytek went into protection mode when he tried to measure the maximum power into lower impedances. Nevertheless, he concluded that, like its predecessor, "Mytek's Brooklyn AMP+ is indeed a tiny powerhouse." (Vol.44 No.5 WWW)

PLINIUS REFERENCE A-150 STEREO/MONOBLOCK: $14,995 EACH, $29,990/PAIR
This solid state amplifier from New Zealand can be operated in stereo mode, when it offers 150Wpc into 8 ohms and 250Wpc into 4 ohms, or in bridged-mono mode, when it offers 450Wpc into 8 ohms and 600Wpc into 4 ohms. A button on the front panel allows you to switch between "class-AB" and "class-A" output stage bias. In the test lab, JA found that class-A operation was optimal, where the A-150 offers high power (exceeding its specified powers) with low distortion, especially in bridged-mono mode. However, he also noted that this amplifier will perform best in both stereo and mono modes with loudspeakers whose impedance remains at or above 4 ohms. Nevertheless, JVS found that the stereo Plinius worked well with his low-impedance Wilson speakers. He much preferred class-A operation, which he wrote was "the path forward for focused listening that puts a premium on sparkle, life, and fine detail." And with two monoblocks the sound was even smoother, warmer in the midrange, and more alive. "A pair of RA-150s delivered abundant midrange warmth, fine bass, true timbres, and emotionally compelling sound," he wrote. (Vol.47 No.1 WWW)

PRIMARE A35.8: $5500
This eight-channel colleague of the Swedish manufacturer's stereo A35.2 uses the reliable and powerful Hypex NC500 class-D module, with some modifications. The amplifier features a switch-mode power supply, with its two outputs each feeding four amplifier stages. Pairs of outputs can be run as bridged mono amplifiers. KR auditioned the Primare with three bridged pairs to run his Left-Center-Right speakers and the remaining two channels to run his two surround-channel speakers. While he did try the amplifier in eight-channel mode, KR found that bridging transformed the A35.8 "into a much more exciting amplifier" with a better bass balance and superbly stable imaging, even in stereo. He noted that there was never any evidence of the "gray" treble he had experienced with earlier Ncore-based amplifiers: "In my preferred five-channel configuration, the A35.8 equaled other good amplifiers in the treble." Comparing the Primare with his reference Benchmark AHB2, he felt that the Primare sounded "more convincingly live" than the Benchmark. On the test bench, the A35.8 exceeded its specified power of 150Wpc with two channels driven into 8 ohms, clipping at 200Wpc, and met its 300Wpc specification with two channels driven into 4 ohms. JA's conclusion was that the Primare A35.8 offers high power, especially in bridged mode, with very low levels of distortion and audioband noise. KR suggests A–; too bad there's no such rating. (Vol.45 No.11 WWW)

ROGUE AUDIO DRAGON MONOBLOCK: $5996/PAIR
The DragoN uses a tubed input stage and Hypex's NCore MOSFET class-D module in the output stage. Rogue says that a global feedback circuit that includes the front-end's ECC802S tube forces the class-D output to behave (and sound) like a tube circuit. There are balanced and single-ended inputs. The specified power is 325W into 8 ohms and 525W into 4 ohms. JD used a pair of Rogue DragoNs to power his ESS hybrid-electrostatic loudspeakers and concluded that the monoblocks unveiled new takes on his favorite recordings. "The class-D power and dynamics spoke to the younger me, who craves those overwhelming sensations that result, above all, from loudness, and the today me who appreciates the DragoNs' excellence at bringing less dynamic music to life at lower volumes, offering me considerable pleasure within the constraints of everyday real life." On the test bench, the DragoN clipped at 127W into 8 ohms and 226W into 4 ohms, both powers lower than specified, though the amplifier exceeded the specified powers if the clipping definition was relaxed from 1% to 3%. Distortion was relatively high in level, even at moderate powers, but fortunately, the distortion signature was predominantly the subjectively innocuous second harmonic. JA concluded that the Rogue DragoN's measured performance is dominated by the use of a tube in the input stage. "This amplifier offers high power," he wrote, "but with high levels of second-harmonic distortion." (Vol.47 No.3 WWW)

ZESTO BIA 200 SELECT: $15,900
This elegant-looking, zero-loop–feedback, tubed design from California comes fitted with push-pull pairs of KT150 output tubes operated in Ultralinear mode, but can also use K120s or KT88s. Output tube bias is adjustable on the fly for KT150s (three settings) and KT120s (two settings). There are balanced and single-ended inputs and 4, 8, and 16 ohm output transformer taps. KM used both KT150s and KT88s. With the latter tubes, KM noted that the Bia 200 Select sounded "laid-back, a bit slumber-toned, and easy on the ears. ... Smoothness and textural sweetness were its strongest points." With KT150s at the same low bias he had used for the KT88s, the Zesto sounded entirely different, "like a transparent membrane, now pulled tighter." Moving up to the middle bias setting, and then to the highest, KM commented that "music swelled with more intensity and force in the low

With Great Power ...

PowerQuest 303 505 707

Power Conditioners with Noise-Dissipation and Non-Sacrificial Surge Protection

Matching outstanding AudioQuest performance with non-sacrificial surge protection, the new PowerQuest 303, 505, and 707 power conditioners create excellent foundations for stereo systems, multichannel home theaters, and custom installations.

With great power comes great performance.

But please don't take our word for it. We invite you to experience PowerQuest and treat your audio/video system to the strong foundation it deserves.

PowerQuest 303: US$459.95
PowerQuest 505: US$699.95
PowerQuest 707: US$1,299.95

audioquest®

end and better articulation and more immediacy, overall." He concluded that the Bia 200 "is transparent, powerful, resolving, fun. Maybe it's the top end that seems to go out for miles, or the sonorous bass, or how it steps out of the way of recordings and lets them shine on their own terms." On the test bench, the Zesto featured extremely high source impedances from all three of its output taps, conforming to classic telecommunications practice in which making the source impedance the same as that of the load impedance maximizes power transfer. However, this means that the amplifier will sound different with every loudspeaker with which it is used. Of greater concern was that the Bia 200 only met its specified powers at relatively high levels of harmonic distortion, along with the fact that the distortion was higher at low frequencies than it was in the midrange and that the distortion and noise were different in the two channels. JA found that this behavior was due to mismatched output tubes—Zesto recommends that the tubes have at least 50 hours of use to sound their best, but the review sample's tubes had more than 500 hours of use, with corresponding deteriorations in their operating parameters. The paradox, therefore, is that the longer the tubes are used the better the amplifier will sound but the worse it will measure. JCA says that B rating is tentative pending a follow-up review of a new sample with fresh tubes. (Vol.46 No.3 WWW)

DELETIONS

Simaudio Moon 860A v2, discontinued. Bel Canto E1X, Classé Delta monos, PS Audio BHK 300, VAC Statement 452 IQ not reviewed in a long time.

INTEGRATED AMPLIFIERS & RECEIVERS

A

AMPSANDSOUND BIGGER BEN: $5600
This single-input, single-ended, triode-wired, no-negative-feedback tube amplifier drives both loudspeakers and headphones. It offers approximately 8Wpc into 8 ohms and 5Wpc into 32 ohms (when equipped with a solid state rectifier and KT88 output tubes). With 6L6GC output tubes, when it maxes out at 3Wpc, the Bigger Ben powered Zu Soul Supreme speakers "to greater levels of transient and timbral exactitude ... than most any other amp I've tried," wrote HR. With DeVore Orangutan O/93s, HR found the Ben every bit as natural and engaging as the First Watt F8 and Elekit TU-8600. Driving HiFiMan's hard-to-drive Susvara headphones, HR described the Bigger Ben as having a radiant quality—"as if the sound were illuminated from within." Rated A+ as a headphone amp. (Vol.44 No.4 WWW)

ANTHEM STR INTEGRATED: $4999 $$$ ★
Anthem's solid state STR integrated amp offers 200Wpc (into 8 ohms) of class-AB power, along with seven analog inputs—one balanced, four single-ended, and two phono (one MM, one MC). It also offers a 32-bit/192kHz D/A processor with six digital inputs—four S/PDIF (two RCA, two TosLink), one AES/EBU (XLR), and one USB. A subwoofer output is provided, but, curiously, there's no headphone output. Of interest to users with problematic listening rooms is the STR's built-in Anthem Room Correction (ARC) processor: using the supplied microphone, ARC can be set up using a PC that's been configured with the appropriate (downloadable) software and connected to the Anthem's miniUSB or Ethernet jack. (The latter has no other function: the STR is not Wi-Fi capable.) Even before setting up and trying ARC, TJN enjoyed the Anthem STR for sounding, with one recording in particular, "punchy and likely true to the source, with excellent detail and an open midrange." With ARC engaged, TJN heard differences that "ranged from subtle to striking . . . and were only rarely inconsequential." Benefits included a "cleaned up" double-bass sound on one CD, greater upper-bass precision in the sounds of massed voices on another. His conclusion: "a watershed product worth serious consideration." Writing of his experiences in measuring the Anthem STR, JA called it "a well-engineered amplifier offering high powers and respectable measured performance." (Vol.41 No.7 WWW)

ARCAM RADIA A25: $1499 $$$
See Herb Reichert's review in this issue. (Vol.47 No.4)

AUDIO NOTE MEISHU PHONO 300B TONMEISTER (STANDARD VERSION): $15,7400
This class-A, zero negative feedback, single-ended-triode integrated's power supply uses a 5U4G tube rectifier, with each channel's line input using a Psvane Hifi Series 12AU7/ECC82 and a NOS Philips ECG 5687WB to drive an interstage transformer. Each phono input channel uses a Psvane Hifi Series 12AX7/ECC83 and either a Sovtek/Electro Harmonix 6922 or a Russian ECC88. A single Psvane Standard Hifi Series 300B tube provides the output power, specified as 8Wpc into 8 or 4 ohms from the appropriate transformer tap. KM found this plenty enough power for his high-sensitivity DeVore Fidelity O/96 speakers. Playing LPs, he wrote that the Audio Note's performance "was whole cloth, transparent, with superquiet, black backgrounds. It was texturally and tonally beautiful. Mesmerizing, providing new insight into familiar recordings, resolving previously unheard details." "Words fail to express the satisfaction I derived listening to music through this expensive Audio Note integrated amplifier," KM concluded. In the test lab, JA concluded that the Meishu Phono Tonmeister's measured performance was what he would expect from an amplifier with a single-ended output stage that uses a single 300B tube for each channel. It featured a high source impedance and high levels of predominantly second-harmonic distortion, even at low powers. While noting the measured performance characteristic of its type, Editor JCA awards Class A for exceptional musicality. (Vol.46 No.2 WWW)

AUDIO RESEARCH I/50: $6900
This tidy-looking all-tube amplifier uses two matched pairs of 6550WE output tubes and three 6922 small-signal tubes. There are balanced and single-ended line inputs, a headphone output, and 4 and 8 ohm speaker outputs. Two optional modules are available: a DAC ($1000) and an MM phono ($750)—these were not fitted to JA's review sample. JA was impressed by the ergonomically friendly control offered by both the remote and the top-panel buttons and knobs: the I/50 "is a combination of classic tube amplifier design with 21st century microprocessor-controlled functionality," he wrote. Even though neither speaker is a particularly demanding load, JA found that the 4 ohm outputs worked best with his KEF and GoldenEar minimonitors, the amplifier's midrange smooth- and natural-sounding. With the 8 ohm outputs, the balance was somewhat forward-sounding with a touch of glare in the midrange, he noted. The balanced input's gain was 6dB lower than the unbalanced, which might mean that the Audio Research may not play loud enough in a room larger than his or with insensitive loudspeakers, unless used with a single-ended source. In JA's test lab, the I/50 met its specified maximum power of 50Wpc from the 8 ohm tap into 8 ohms at 3% THD+N but was 0.5dB short of the specified figure from the 4 ohm tap. He summed up the Audio Research's measured performance by writing that the amplifier is happiest when it is driving a higher impedance than the nominal values of the output transformer taps. "While the distortion signature is primarily the subjectively benign second harmonic, the I/50 offers better linearity from its 4 ohm tap," he wrote, concluding that the I/50 has a touch of that "tube magic," "but without going whole hog, as so many of the current crop of tubed amplifiers do." JA subsequently installed, auditioned, and measured the DC1 DAC module. Listening to CD data, he found that the tonal balance was a little darker than he was used to with the I/50 handling analog data. However, the sound of the I/50's digital inputs had sufficient weight on solo piano recordings, he noted. On the test bench, the DC1 offered low levels of distortion and a resolution close to 18 bits. JA summed up by writing that the module's sound quality didn't leave him feeling he was missing anything with CD data, and it sounded respectably satisfying with hi-rez files. "The DAC module adds value to what is already a relatively high-value tubed integrated amplifier," he concluded. (Vol.46 No.9, Vol.47 No.2 WWW)

AVM OVATION A 6.2 ME: $9995
Full-featured, German-made integrated includes balanced and single-ended inputs, all with adjustable sensitivity, a high-resolution "digital" volume control, tone controls, and a discrete headphone output. Runs hot due to the MOSFET output stage being heavily biased into partial class-A operation. HR felt that the A 6.2 ME "imparted a sense of polish, or 'wetness'" to the "almost-dry-but-not-dry sound" of the Falcon "Gold Badge" LS3/5a's. Compared with his long-term reference, the Rogue Sphinx V3, HR commented that the AVM "lit up the music, making it brighter, more vivacious, more right there in front of me, more pacey, and—I think—more meaningful." AVM specifies the A 6.2 ME's maximum output power as 180Wpc into 8 ohms and 300Wpc into 4 ohms. With both channels driven the Ovation delivered 190Wpc into 8 ohms and 315Wpc into 4 ohms. HR liked the sound of the headphone amplifier with sensitive headphones but found that it struggled to deliver undistorted power into the HiFiMan Susvara's difficult load. JA's measurements confirmed that the headphone output clipped at a relatively low voltage, but he wondered if this problem was specific to the review sample. (Vol.44 No.6 WWW)

AYRE ACOUSTICS EX-8 2.0 INTEGRATED HUB: $8000–$11,100
JA reviewed the original version of this integrated amplifier, which had an onboard D/A processor and a Roon-Ready Ethernet port, in the February and April 2019 issues of *Stereophile*. The 2.0 version's 100Wpc output section still features Ayre's feedback-free Diamond circuit, but it doubles the number of output devices, allowing it to drive more difficult loads and increasing its power output into 2 and 4 ohm loads. (JA measured clipping powers of 107Wpc into 8 ohms and the specified 170Wpc into 4 ohms, compared with the original EX-8's 125Wpc into this load.) Listening to LPs with an external Tavish phono preamp feeding the Ayre's line inputs, KM wrote that the EX-8 2.0 is "one sweet honey of an integrated amplifier. ... Its outstanding sonic trait is its focused, pristine clarity, a gently scrubbed vision that frames music with refinement, richness, and lucidity." Turning to digital, he wrote that "the trademark Ayre sweetness imbued deep organ notes and electric bass with lushness. An upper-midrange-to-treble crispness aided vocals and guitars, with excellent sustain." He did note that the EX-8 2.0 had a "first row" perspective but concluded that "with its pure treble, clear and rich midrange, ample low end, and coherence, the Ayre is the finest solid state integrated I've had in my house." Analog-only price is $6450; S/PDIF and AES3 inputs add $1000; USB input adds another $500; Ethernet port adds $1700 to base price; fully loaded version costs $8350. (Original version, Vol.42 Nos.2 & 4, WWW; 2.0 version, Vol.44 Nos.11 & 12 WWW)

BALANCED AUDIO TECHNOLOGY VK-80I: $12,000
The fully balanced, hot-running, push-pull VK-80i produces 55 triode watts per channel from two pairs of 6C33C-B output tubes auto-biased into class-AB while relying on a very restrained 3dB of global negative feedback. Four 6SN7 tubes perform line-level input duties. AH was struck by the vigor, scale, and dimensionality the BAT brought to an LP by Angolan singer Waldemar Bastos. "The sometimes startling dynamics of Bastos's singing were conveyed with beauty and bracing force and without a hint of strain, breakup, or distortion," he wrote, adding that the BAT's knack for transparency was aided by its very low noisefloor. AH's conclusion? "It will not produce the most ravishing sound you can hear—clearly being the work of an engineer rather than a poet—but it will extract plenty of meaning and emotion from your favorite recordings." (Vol.47 No.3 WWW)

BOULDER 866: $15,500; $17,000 WITH STREAMING DAC
This beautiful-looking, made-in-America, powerful integrated amplifier features a class-AB output stage that is heavily biased into partial class-A operation. As a result, it runs very hot and needs to be given adequate ventilation. Analog inputs are all balanced; the optional digital-input module adds Ethernet, USB, AES3, optical S/PDIF, and Wi-Fi. JVS was impressed by the 866's analog inputs. While the 866 couldn't produce a soundstage as wide as his big monoblocks do, its

MONITOR AUDIO

Objects of Desire

"...Monitor Audio's elegant looking Platinum 300 3G is a high-performance loudspeaker. Strongly recommended."

- John Atkinson, Stereophile, Nov. 2023

hi-fi+ HIGHLY COMMENDED 2023

Platinum Series 3G

The new Platinum Series 3G comprises four elegantly designed, high performance loudspeakers that entwine acoustic innovation, attention to detail and precision engineering to deliver breathtaking sound, for a lifetime.

monitoraudio.com

J.Sikora

TURNTABLES

Materially Superior, Award-Winning

Reference

stereophile RECOMMENDED COMPONENT 2024 ★★★★★

Standard MAX

2022 the absolute sound PRODUCT OF THE YEAR AWARD

GOLDEN EAR the absolute sound 2022 AWARDS

KV-12

stereophile RECOMMENDED COMPONENT 2024 ★★★★★

REVIEWER the absolute sound REFERENCE

For more information on J.Sikora products, visit ***www.jsikora.eu***

US Dealer Inquiries: jeff@notableaudio.com

International Distributor Inquiries: info@jsikora.pl

bass wasn't as firm as that of more powerful, more expensive amplifiers, and it couldn't deliver ultimate transparency, "the music's essential color palette, and its message, were as captivating as they are with any equipment. ... I felt I could trust the Boulder 866 to be there for me, time after time, delivering sonic truth." Playing music with the Boulder's Ethernet input and Roon, JVS felt that the 866 sounded far better than he expected a $1500 DAC to sound, with a wider soundstage than he was anticipating. He concluded that "the quality of its optional DAC blew me away." Measured performance with the analog inputs was superb, with excellent channel separation, very low noise, and low, predominantly third-harmonic distortion. With both channels driven, the 866 exceeded its specified maximum power into 8 ohms of 200Wpc, clipping at 1% THD+noise at 210Wpc. As is often the case with integrated amplifiers the 866's digital inputs had too much gain, but offer just above 18 bits' of resolution. Class A rating applies to use with analog inputs only. (Vol.44 No.9 WWW)

CH PRECISION I1 UNIVERSAL INTEGRATED AMPLIFIER: FROM $38,000; AS REVIEWED $48,500 ★

CH Precision's decidedly modular I1 Universal integrated amp–D/A processor can be had with a variety of extra-cost options, including a USB digital-input board, an Ethernet-input streaming board, an MC phono-input board (with more EQ curves than just RIAA), and a clock-synchronization board that permits the use of an outboard digital clock. In its base form ($38,000), the I1 provides one pair each of balanced (XLR) and unbalanced (RCA) analog inputs, plus an S/PDIF digital-input board and two balanced (XLR) stereo outputs. Echoing the future-proof design of the amp itself is the I1's D/A processor, which is coded into a field-programmable gate array (FPGA); this upsamples 16-bit/44.1kHz PCM and its multiples to 24/352, and 16/48 PCM to 24/384. The I1 handles up to DSD2565 and converts all DSD data to 24/352.8 before playback. Its class-AB output section can provide up to 100Wpc into 8 ohms. Notwithstanding some setup complexities, JVS was able to get from the I1 "some mighty impressive sound," and to the extent it fell short of his own (costlier) reference gear, those were "sins of omission rather than of commission." JVS found the CH Precision's sound to be "clean, strong, and direct," yet it did not "filter out those intangibles that allow the music to elicit a powerfully emotional response." His verdict: "one of the most complete, most neutral sounding, most carefully conceived components I've reviewed." Writing from his test bench, JA praised the I1's "excellent measured performance," and in his own auditioning of a sample with updated, Roon Ready firmware, found that 40% overall negative feedback gave the optimal balance between low-frequency definition and the unfatiguing presentation of high-frequency detail. (JVS preferred 0% feedback.) JA was impressed by the DAC performance, writing that imaging was precise, the soundstage deep when appropriate, and the midrange uncolored. "Low-level recorded detail was present in abundance but without the feeling that it was being unnaturally emphasized," he concluded. (Vol.42 No.2, Vol.46 No.8 WWW)

DECWARE ZEN TRIODE AMPLIFIER, MODEL NO. SE84UF0: $1195 $$$

DECWARE 25TH ANNIVERSARY ZEN TRIODE AMPLIFIER, MODEL NO. SE84UF0 25: $2995 WITHOUT TUBES; $3395 WITH "CURATED" TUBESET

The 2.3Wpc Zen Triode is a class-A, zero-feedback, single-ended stereo tube amplifier that uses just two resistors and one Jupiter Beeswax film capacitor in its signal path. The output tube is a triode-wired, self-biasing, self-balancing 6N15N (equivalent to a 6BQ5/EL84). The voltage amplification tube is a 6H1N/6N1P dual triode (equivalent to a 6922/6DJ8). With the Denafrips Ares II DAC and Klipsch RP-600M loudspeakers, HR noted a "conspicuous purity of sound" resulting in one of his "most thought- and pleasure-filled musical moments of 2020." "With the Zen's bias switch on High," he added, "music from the RP-600Ms was reproduced with a level of overt vividosity that I had not experienced previously." The considerably more expensive 25th Anniversary Zen Triode Amplifier features an African Padauk hardwood plinth, gold-plated switches, super-duty gold-plated tube sockets, NOS Western Electric Milliamp meters, a choice of knobs for the dual-mono volume controls, and three independent, tube-regulated power supplies, one for each tube. "Without 100dB/W/m horns, the Zen Triode will not crush rocks or destroy planets," HR wrote. "But driving the modest Zu Audio Soul Supremes, it will play Mahler's Symphony No.5 as performed by the Berlin Philharmoniker under the baton of Sir Simon Rattle ... with dark, moody vigor and delicious, microdetailed insights." (Vol.44 No.3 WWW)

ELEKIT TU-8900: FROM $1495 WITHOUT TUBES

HR was impressed by this relatively inexpensive, heavily parts-curated, made-in-Japan, tubed kit amplifier. (It can be purchased preassembled for a $375 premium. A clear top plate is included in this cost and is a $35 kit option.) Lundahl amorphous-core output transformers are combined with 12BH7A small-signal tubes and 300B or 2A3 output tubes, both wired without cathode feedback but with 8dB of loop negative feedback. (This can be switched out.) Specified output power is 8Wpc with 300Bs, 3.5Wpc with 2A3s, both at 10% THD. The review sample was fitted with the Audio Note Silver upgrade ($960), which adds Audio Note 0.1µF silver-foil coupling capacitors, 46 tantalum signal path resistors, two Amtrans AMRG resistors, and four Takman carbon resistors. The Elekit's four tube-set options begin at $365, for two Cossor/LinLai Delux 2A3s and two Sylvania 12BH7As, and top out at $1525 with a matched pair of Western Electric WE300Bs (with a 5-year warranty) and two US-manufactured Sylvania 12BH7As. After much experimentation using multiple speakers, HR decided that he preferred the TU-8900's presentation without loop negative feedback: "Everything felt more impactful, more emotionally fleshed out. Every Elekit 300B virtue was enhanced, especially texture and transparency." "This kit delivered the nuance, intensity, and dramatic transparency of big-name 300B amplifiers costing many times its price," he wrote. HR was also impressed by the TU-8900's headphone output. Driving low-impedance HiFiMan Audivina closed-backs, he found that the Elekit sounded authoritative, though he felt that it got a bit tense and dulled trying to drive HiFiMan's less-sensitive Susvaras. (Vol.46 No.7 WWW),

EUROPEAN AUDIO TEAM E-GLO I: $12,999 AND UP, DEPENDING ON TUBE COMPLEMENT

This elegant-looking integrated amplifier uses a 12AX7 and a 12AT7 signal tube and a pair of KT88 tubes for each channel. There are two output transformer taps, optimized for 4 or 8 ohm loudspeakers. Specified maximum power is 35Wpc into 4–8 ohms in Ultralinear mode or 18Wpc into 4–8 ohms in triode mode, which JA's measurements confirmed, though at a slightly higher level of THD+noise than the *Stereophile*-standard 1%. With his DeVore O/93 speakers driven from the 8 ohm outputs, KM wrote that the E-Glo I's sound was "vivid, fast, forceful, clean, very open, spacious, transparent, dynamic, resolving, and full-bodied—even full-blooded. It served up good helpings of what Art Dudley called 'drive.'" KM preferred triode mode, finding that while Ultralinear made the sound more immediate and upfront, there was "a smidgen's loss of delicacy." Summing up, he wrote that "In its ability to create a supercharged musical presentation within a large soundstage populated by big images, allied to superb definition and resolution, with good tone, the E.A.T. E-Glo I gets so many things right in such a balanced, forceful presentation that I'd say it's worth its asking price." (Vol.43 No.12 WWW)

GRANDINOTE SHINAI: $15,000

Echoing tube-amplifier topologies, the Italian, dual-mono, fully balanced Shinai features two single-ended, class-A, solid state output stages in a push-pull arrangement for each channel, with no loop negative feedback. "As long as I am Grandinote boss," designer Massimiliano Magri told RS, "feedback will be prohibited like sincerity in politics." RS liked what he heard from this unique amplifier: "The Shinai made aural space microscopically tangible," he wrote, adding that the amplifier has "a knack for detail retrieval" and "gave notes and musical lines enough space to stretch out and seamlessly transition into the next notes and musical lines." This transparency was achieved without the presentation sounding clinical or etched: "The Shinai has the spirit of a revealer. It speaks the truth—not ruthlessly, but honestly." In the test lab, the Shinai almost met its specified maximum power of 37Wpc into 8 ohms at 3% THD+N, though JA warned against using the Grandinote with speakers whose impedance dropped below 4 ohms. JA summed up the measured performance by saying that it "is dominated by the designer's decision not to use negative feedback. I would expect the Shinai's sonic character therefore to be similar to that of a typical tube amplifier." However, RS concluded that the Shinai "did some things better than my tube gear—definition, detail, space, scale, touch." Two months after he submitted his review, RS was astonished to find that the Shinai's sound *exploded*: "It blew open *musically*. As good as it was already, the sound went from here up to there, overnight." An enigma, but lengthy listening sessions confirmed his impression. He concluded that the Shinai sounded "rich and bloomy but with a sense that you're hearing the true, original thing and not a recording." (Vol.43 No.11, Vol.44 No.4 WWW)

LINEAR TUBE AUDIO Z10E: $6950

See "Headphones & Headphone Accessories." (Vol.43 No.5, Vol.44 No.2, Vol.45 Nos.1 & 3 WWW)

LUXMAN L-509Z: $12,495

Luxman's new flagship solid state integrated has the same thick aluminum top plate and steel casework as the L-509X that KM favorably reviewed in 2018 and, other than a Pentaconn headphone jack on its front panel, looks identical. However, it replaces the older amplifier's op-amp chips with discrete circuitry and incorporates Luxman's new LIFES feedback system, which is said to lower noise and distortion and reduce the unwanted effects of using negative feedback. There are balanced and single-ended line inputs and an MC/MM phono input. Specified power is 120Wpc into 8 ohms and 220Wpc into 4 ohms, which was confirmed by JA. The amplifier offers treble, midrange, and bass controls; these are bypassed in "Line Straight" mode and KM found that this mode "made music sound cleaner, better focused, well organized, and orderly but perhaps a little rigid." After a lengthy break-in, the L-509Z's pure sonorities in the upper mids through the treble captured KM's ears. "This is an amp of brilliant purity and fluid communication," he wrote. "Its squeegee-clean top end allowed cymbals, guitars, pianos, and percussion to resonate and communicate direct to my gut." He commented that the L-509Z had no obvious signature. "It was largely music and equipment agnostic," he concluded. "Its message is clarity, balance, coherence, seamlessness, quietude, and a certain invisibility." JA added that "Overall, Luxman's L-509Z offers excellent measured performance, especially its low-noise, low-distortion, overload-proof phono input." (Vol.47 No.2 WWW)

MARANTZ MODEL 30: $2999 $$$

This elegant-looking amplifier's output stage uses Hypex NC500 class-D modules and is specified at 100Wpc into 8 ohms or 200Wpc into 4 ohms. JA's measurements indicated the Model 30 significantly exceeded those powers, clipping at 165Wpc into 8 ohms and 240Wpc into 4 ohms. Not always a fan of class-D amplifiers, HR wrote that "the Marantz version of class-D clarity brought greater transparency to the upper five octaves, in a way I have not previously experienced with any class-D module." Compared with the more expensive Yamaha A-S3200, HR felt that while the Yamaha represented "bright-n-ready, old-school, class-AB vivo," the Marantz sounded darker, less extraverted, with "more silence in the silences and more space in the soundspaces." He also found that the Marantz partnered well with Magnepan .7 speakers, pulling out "shovelsful of previously hidden subtleties." The Model 30's headphone output will work better with high-impedance 'phones. No digital inputs, but the Marantz has a versatile, low-noise, low-distortion phono stage that offers a moving magnet mode and three moving coil modes, labeled MC Low, MC Mid, and MC High, and different combinations of gain and resistive loading. (Marantz also offers a matching SACD player/streaming DAC, the SACD 30n.) HR summed up his auditioning, "The Marantz Model 30 integrated suits my taste for simple sophistication. Its phono stage is ... versatile and musically effective. ... Best of all, this stylish new Marantz is a well-tuned, super-transparent, superdetailed class-D amplifier that powered

diverse loudspeakers with a captivating élan worthy of its 'Model 30' heritage." (Vol.44 No.1 WWW)

MUSICAL FIDELITY NU-VISTA 800.2: $10,999
This updated version of Musical Fidelity's original Nu-Vista 800 still uses nuvistor tubes for its small-signal circuitry, coupled with a solid state, class-AB, bipolar output stage that is specified as delivering 330Wpc into 8 ohms, 500Wpc into 4 ohms, and 1000W peak into 2 ohms. (In the test lab, the Nu-Vista 800.2 didn't quite meet its specified output powers, clipping at 290Wpc into 8 ohms and 470Wpc into 4 ohms.) Inputs are one balanced line-level pair and four single-ended line-level pairs. JA found that the Musical Fidelity exerted superb low-frequency control, with an optimal combination of weight and articulation. He noted that the manner in which this amplifier retrieved a recording's low-level detail was addictive. That, coupled with its tight grip on the speakers' woofers, its sense of almost unlimited power, its superb soundstage definition, and a sense of ease to its presentation, won the Nu-Vista 800.2 an unreserved recommendation. (Vol.46 No.12 WWW)

MCINTOSH MAC7200: $8000
This classic stereo receiver may well be the most expensive model currently available, but LG was mightily impressed by what it offers. In addition to McIntosh's traditional blue level meters and an excellent FM stage, it offers S/PDIF and USB digital inputs, line and MC/MM phono analog inputs, and a headphone output. (JA's measurements suggest that the latter will work best with high-impedance cans.) The transformer-coupled, solid state output stage offers a maximum power of "at least" 200Wpc into 2, 4, or 8 ohms; JA measured 255Wpc into 8 ohms, 235Wpc into 4 ohms, and 283W into 2 ohms from the respective output-transformer taps. LG found that the MAC7200's tuner equaled his Day Sequerra FM Reference's ability to generate a jet-black background and render broadcast music punchy, dynamic, and involving, although it lacked the FM Reference's transparency and selectable bandwidth filters. "The FM tuner is this product's jewel," he wrote, adding, "its sensitivity, selectivity, and ability to quiet with an FM signal equaled and in many cases bettered my FM Reference tuner." Auditioning the MC phono input, LG noted that it rendered a favorite LP with stunning transients, wide soundstage, and incredible detail, easily besting the CD version of the same work. He also liked what he heard from the Mac's digital inputs, commenting that they matched his reference Bryston DAC's dynamics, background quietness, and depiction of the soundstage. Summing up, LG wrote that the MAC7200's power, resolution, dynamics, and transparency are among the best he has heard: "If you have the sturdy shelf space for its large, heavy chassis, are a fan of FM radio, and are looking for one unit to handle many different two-channel tasks, the MAC7200 should be on your short list." (Vol.44 No.1 WWW)

MOONRIVER 404 REFERENCE: $5995
As supplied for review, this Swedish amplifier included optional digital and MM/MC phono analog inputs. The digital module, though, was based on an AKM DAC chip that is no longer available following the disastrous fire at the Japanese manufacturer's factory, so the review didn't discuss the digital input. But with the single-ended line inputs, JVS wrote that while the sense of air wasn't as breathtaking as through his expensive reference amplifier, "the music sounded airier and more colorful and seemed to emerge from a quieter background" than what he'd recently heard through the two more expensive integrateds. "Plenty of bass showed that the low-powered Moonriver 404 Reference has what it takes to drive the challenging Wilson Alexia 2's," he added. Summing up, JVS wrote that the Moonriver 404 Reference "does justice to complex and demanding recordings. It sounds tonally spot on, well balanced, clear, and musical." Although the 404 Reference uses an output stage based on Texas Instruments' LM3886 chip, which is specified as being able to deliver 50W into 8 ohms and 70W into 4 ohms, JA found that the Moonriver clipped at 39.5Wpc into 8 ohms and 60W into 4 ohms. Although the Moonriver has single-ended preamplifier outputs, JVS found that these "buzzed" with his reference monoblocks, and JA found that there was a high level of ultrasonic noise on the preamplifier outputs. (This may have been a sample fault.) In his measurements, JA also noted low-level power-supply spuriae and that the distortion signature was primarily the subjectively benign second harmonic. Intermodulation distortion was not excessive. (Vol.44 No.2 WWW)

NAD MASTERS SERIES M33: $4999
This extraordinarily versatile amplifier incorporates a fully integrated BluOS streaming platform, sophisticated control options, Dirac room correction, analog line and MM/MC phono inputs, digital inputs, a headphone output, and an output stage based on the Purifi Eigentakt class-D technology developed by Bruno Putzeys. KR was impressed. Listening to a brass band recording, he found the M33's sound notably transparent. "There was a satisfying balance between the drum and tuba at the low end, the brashness of the upper brass, and the filigree of winds in between," he wrote, going on to say that "the soundstage was full and wide, and there was the impression of significant weight and body." "The M33, in one well-integrated and handsome box, replaces all the traditional components and can be operated from a smartphone or a tablet," concluded KR, adding "Keep your beloved speakers and let the NAD M33 do everything else. It will do it all superbly." On the test bench the M33 exceeded its specified continuous output power of 210Wpc into 8 ohms and delivered 460Wpc into 4 ohms. JA was impressed by the "excellent" phono stage and concluded that "NAD's M33 packs a lot of well-engineered performance into its relatively small chassis." The M33 was both *Stereophile*'s Amplification Component of 2020 and the magazine's overall Product of 2020. (Vol.43 No.10 WWW)

PASS LABORATORIES INT-25: $7600 $$$ ★
To HR, who prefers integrateds over separates yet wouldn't even consider buying an amp with a built-in DAC—"Why would I pollute a fine audio component with a non-upgradable and possibly third-rate ancillary?"—the Pass INT-25 emerged as an ideal component. The remarkably heavy (51lb) INT-25 is essentially a Pass XA25 power amp—class-A push-pull without degenerative feedback and offering 25Wpc—wedded to a minimalist line-level preamp. Used with his DeVore O/93 speakers and playing Erich Leinsdorf's recording of Wagner's *Die Walküre*, Herb found that "the INT-25 let the O/93s make that Die Walküre into something so beautiful I just laid back and basked in it." He also felt the INT-25 is capable of putting across "a subtle radiance" that eludes other solid state electronics. With the amp on his test bench, JA found "much to admire in the Pass Labs INT-25's measured performance." HR's last word: "my new solid state reference." (Vol.43 No.2 WWW)

RIVIERA AUDIO LABORATORIES LEVANTE: $21,995
This hybrid, analog-input-only, Italian design features tubed front-end circuitry and a MOSFET output stage that can be operated in class-A, in which it offers a maximum power of 30Wpc into 8 ohms, or class-AB, in which it offers 120Wpc into 8 ohms. (JA had to relax our definition of clipping to 3% THD+noise for the Levante to meet its specified powers.) There is no global loop negative feedback because the designer believes this causes the distortion signature to mimic that of human hearing. JA found that distortion at moderate powers was close to 0.5%, though this was almost entirely the subjectively innocuous second harmonic. HR's first impression was that the Levante, fitted with vintage Mullard input tubes, sounded "Too lush. Too big. Too densely atmospheric." The review sample was supplied with modern JJ inputs as well as the Mullards. Changing to the stock JJ tubes produced a sound that was more overtly direct, less misty, and possessed of a more sharply focused, less-granular clarity than with the Mullards. Other than the increase in power, HR didn't notice much difference between class-A and class-AB operation. The Levante's headphone output had a moderately low source impedance of 18 ohms. While HR found the low-sensitivity, 60 ohm HiFiMan Susvaras sounded slightly rounded off, the sound with the sensitive, 300 ohm ZMF Vérité closed-backs was "unusually precise and vibrant." "I never imagined there'd be an integrated amplifier with a headphone amplifier of this caliber," he concluded. (Vol.45 No.2 WWW)

ROKSAN ATTESSA STREAMING AMPLIFIER: $3399
This British class-AB amplifier incorporates line and MM phono analog inputs, coaxial and optical S/PDIF digital inputs, and will also decode audio data via Bluetooth, USB, and Ethernet. (It will decode MQA data with the last two inputs.) Roon recognized the amplifier as an AirPlay device, but at the time of JA's review, the Attessa had not yet been certified by Roon. However, after being set up with the MaestroUnite app, it could play audio streamed with BluOS. JA used the Roksan with Mission 770 and GoldenEar BRX speakers and noted that the amplifier kept tight control over both speakers' woofers. He compared the Attessa's S/PDIF inputs with the same data fed to the Ethernet port with BluOS and decided that there was a better sense of palpability and greater subjective low-frequency extension with network data. Using both loudspeakers and headphones, JA noted natural-sounding midrange and highs and an excellent sense of drive in the bass. On the test bench, the Attessa met its specified powers of 80Wpc into 8 ohms and 130Wpc into 4 ohms, with very low distortion at lower powers. The onboard DAC offered around 18 bits of resolution. The phono stage also measured well, with low noise, superbly high overload margins, and accurate RIAA EQ. (Vol.45 No.12 WWW)

ROTEL DIAMOND SERIES RA-6000: $4499.99
Solid state, class-AB amplifier with balanced and unbalanced line analog inputs, an MM phono input, coaxial and TosLink S/PDIF digital inputs, and Bluetooth, USB, and Ethernet connectivity. Specified power is 200Wpc into 8 ohms and 350Wpc into 4 ohms, both confirmed by JA's measurements. DAC chip is a Texas Instruments PCM5242, which decodes PCM data up to 24/192 but not DSD data. Playing CDs with Rotel's DT-6000, HR felt that the Rotel excelled at the volume, force, and time-passage parts but fell a breath short on recovering a full harmonic spectrum of tone. With LPs, however, the RA-6000 let recordings sound like themselves, open and clear with no issues to distract listeners. "It was a joy," he wrote, adding that in his system, "the RA-6000 played LPs even better than CDs—and that's saying a lot." The Rotel's own digital inputs sounded much dryer and pared down compared with the DT-6000. "On stringed instruments," HR wrote, "the beauties of texture and harmonics were presented less richly. Nevertheless, performances moved along and presented themselves in a bright, lively way that kept me listening contentedly." On the test bench, the Rotel offered low noise and distortion and high power, though JA noted that the headphone output's very high source impedance won't be optimal for low-impedance headphones. The D/A section had limited resolution, between 17 and 18 bits, and while the phono stage measured well, he conjectured that its rising ultrasonic output might slightly emphasize the audibility of record clicks. (Vol.46 No.2 WWW)

T+A PA 3100 HV: $24,800
This powerful solid state integrated amplifier offers up to 300Wpc into 8 ohms and 500Wpc into 4 ohms;JA measured clipping powers of 318Wpc/8 ohms and 525Wpc/4 ohms. JA also noted that while distortion was not especially low—though it remained below 0.1% at high powers into loads >2 ohms—it was commendably consistent with frequency and consisted primarily of the subjectively innocuous second harmonic. The T+A PA 3100 HV has both balanced and unbalanced inputs and preamplifier and headphone outputs—the latter best suited for high-impedance headphones—as well as the usual loudspeaker outputs. The review sample was not fitted with the optional Tone Control/Room Correction or MM/MC phono input modules, nor was it supplied with T+A's PS 3000 external power supply. Nevertheless, JVS found that this amplifier's "consistently musical presentation" emphasized "smoothness and ease over strong contrasts and abrupt shifts" and described it as "a powerful transmitter of musical truth." He summed up the PA 3100 HV as "an excellent, meticulously engineered, beautifully made integrated amplifier." (Vol.44 No.4 WWW)

TECHNICS SU-R1000: $9999.95
This groundbreaking "digital" amplifier offers MM and MC phono, line-level, and digital inputs and maximum powers of

P1

THE AWARDS KEEP COMING!

Pixel Magic Systems Ltd.
(852) 2655-6700
info@luminmusic.com

LUMIN
LUMINMUSIC.COM

USA distribution:
Source Systems Ltd.
949-369-7729
sourcesystems@cox.net

CLEARAUDIO

Signature

THE NEW STANDARD FOR PERFORMANCE AND VALUE

Encoder Motor Controller, TSC Speed Regulation
Integrated Auto-Calibration, IMS O-ring Motor Suspension

MUSICAL SURROUNDINGS 33 1/3
EST. 1991 - OAKLAND, CA
MUSICALSURROUNDINGS.COM | 510.547.5006

clearaudio
CLEARAUDIO
MADE IN GERMANY

150Wpc into 8 ohms and 300Wpc into 4 ohms. (JA's measurements indicated slightly higher clipping powers into both loads.) The SU-R1000 makes extensive use of DSP: "JENO" (Jitter Elimination and Noise-shaping Optimization) eliminates jitter during the conversion of all signal to high–sample-rate PWM to drive the output transistors; "Load Adaptive Phase Calibration" measures the output gain and impedance phase characteristics of the amplifier and speaker to create an ideal impulse response; "Active Distortion Cancellation Technology" compensates for the back electromotive force produced by speakers; and "Intelligent Phono EQ," which optimizes the RIAA equalization and channel separation. (A test LP is included to allow this last feature to be implemented for the user's specific phono cartridge. JA found that even without the Intelligent Phono EQ, the SU-R1000's RIAA correction was extraordinarily accurate—one of the best he has ever measured.) "The Technics SU-R1000 is not a class-D amp 'on steroids,' and it's not a solid state amp emulating a tube amp," wrote KM. "It's unlike any amplifier I've heard. The SU-R1000 achieved levels of performance and sound quality I've not previously heard from any amplifier, except in terms of tone and texture." (KM preferred his reference tube amplifiers for these qualities.) "The SU-R1000 may be technically complex, but its sound was simple, whole, and true with exceptional transparency, flow, and imaging ... warm and a touch rich," he decided. JA concluded that the Technics SU-R1000 line-level analog inputs, phono inputs, and digital inputs all offered excellent measured performance. (Vol.44 No.12, Vol.45 No.1 WWW)

THÖRESS EHT MKII: $10,995

This hybrid tube-input/MOSFET-output amplifier offers up to 20Wpc into 6 ohms. A toggle switch allows the user to choose flat (the middle position) or either of two bass-boost settings, B1 or B2. When HR first tried B1, he thought it was a trick—that the setting was rolling off the treble to bring the bass and midrange up. "But as I listened more carefully," he wrote, "alternating between B1 and flat, I found that the slight swell, maybe 5dB around 80–90Hz, was adding length and fullness to reverb sounds." Overall, however, he preferred the flat setting, when the EHT "portrayed reverb in a manner so natural (energy- and focus-wise), it was hard to remember to listen for it." HR used this amplifier to drive DeVore O/93, Falcon Gold Badge, and Heretic AD614 speakers and commented that the EHT "specializes in naturally rendered contrasts, a rare virtue." He summed up his time with it by writing, "The Thöress EHT was created to deliver high-toned elegance, conspicuous musicality, and gratifying precision to easy-to-drive speakers like the ones I used it with. That's its raison d'être and the reason I recommend it." (Vol.46 No.10 WWW)

YAMAHA A-S3200: $7999.95

The styling of this well-finished, hot-running integrated amplifier evokes memories of the Japanese company's "Natural Sound" receivers from the 1970s. The A-S3200 offers both balanced and singled-ended line inputs, headphone, preamplifier, and loudspeaker outputs, and tone controls. JVS liked the headphone outputs, commenting that "the welcome smoothness and beauty of the presentation, and ... the excellent left-right soundstaging, earn the headphone amp a big thumbs up." However, he was less happy with the A-S3200 driving his Wilson Alexia 2 loudspeakers, writing that while "air and depth were pretty good, the soundstage was as wide as I've come to expect from other integrated amplifiers I've evaluated, and musicality was a constant," what stood out most was "a predominant midrange whose color palette, compared to my reference, seemed somewhat restricted." JVS suspected that the Yamaha was not an optimal match for his current-hungry Wilson speakers, mandating a follow-up with higher-impedance loudspeakers. In that follow-up, HR found that the A-S3200 played more dramatically into Harbeth 30.2 speakers than his reference Pass Labs INT-25 had. "Bass had more force and bite," he wrote and concluded that "this luminous, retro-looking integrated is more than a baby-boomer nostalgia toy. It is a serious, high-value music-playing machine." On the test bench, the A-S3200 exceeded its specified maximum continuous power of 100Wpc into 8 ohms and 150Wpc into 4 ohms, clipping at 110Wpc and 168Wpc, respectively. Line-input gain was on the high side, though the MM- and MC-capable phono input offered appropriate gains for both types of cartridge. (Low-output MC types will probably better match this input.) RIAA equalization featured slight boosts in the treble and midbass regions; the phono input's distortion and noise were very low. HR's follow-up included an audition of the A-S3200's phono stage. Using a Koetsu cartridge loaded at 50 ohms, the Yamaha "played instruments with exceptionally tight bass and a detail-packed midrange." HR concluded that "Overall, the Yamaha's phono stage far exceeded my expectations," though he warned that those who utilize the A-S3200's phono stage will need to choose MC cartridges with care. Even so, he added that he was certain that no one would be disappointed with the moving magnet input. (Vol.43 Nos.9 & 11 WWW)

B

AVM INSPIRATION CS 2.3: $6995

A small integrated amplifier with a class-D output stage that integrates a CD drive, offers Ethernet, Wi-Fi, and Bluetooth connectivity and has coaxial S/PDIF, HDMI, and USB-A digital inputs, two sets of single-ended, line-level analog inputs and one MM/MC phono input with loading plugs. (The analog inputs are not converted to digital.) There are two TosLink digital outputs; analog preamplifier and subwoofer outputs; a headphone jack, and a pair of small binding posts for loudspeakers. Control can be with the front panel control buttons or AVM's iOS and Android RC X apps. SM found the app intuitive and a pleasure to use: "Navigating menus and submenus felt logical and appropriate." He concluded that while the C S2.3 is not inexpensive, "when you price out everything it does—DAC, streamer, CD player, line and phono preamp, amplifier, headphone amp—and how well it does it, the smallness of that number starts to impress." In the test lab, JA found that the AVM met its specified power of 140Wpc into 4 ohms, the CD transport featured superb error correction, the DAC offered high resolution and a choice of reconstruction filters, and the phono input had superbly accurate RIAA correction and low noise and distortion. He did comment, however, that the amplifier will probably work best with speakers that have an impedance greater than 4 ohms. (Vol.46 No.6 WWW)

CAMBRIDGE AUDIO CXA81: $999 $$$

The CXA81 is a versatile, solid state integrated amplifier with analog and digital inputs, headphone, preamplifier, and subwoofer outputs, and the usual loudspeaker outputs. JA found that the Cambridge slightly exceeded its rated power of 80Wpc into 8 ohms and 120Wpc into 4 ohms. Using its line inputs, the CXA81 had KM muttering "wow" (several times) at its transparency to the sound of upstream electronics and recordings. Using both Polk and Quad loudspeakers, the amplifier "consistently created a large, atmospheric soundstage with solid images." The Cambridge's digital inputs were consistently satisfying, though not in the class of KM's reference BorderPatrol DAC, which costs 50% more than this DAC-equipped integrated amp. Compared with the more expensive, "fully loaded" Schiit Ragnarok 2, the CXA81 had better top-end air, a slightly wider and deeper soundstage, and a more laid-back presentation; the Schiit amp offered better tone, slightly better drive, and more intimacy. The CXA81 helped KM realize "how much music can be had for such a low price. It knocked me flat with its ability to sound good in so many ways." (Vol.44 No.1 WWW)

CAMBRIDGE AUDIO EVO 150: $2999

The Roon-Ready, "all-in-one" EVO 150 has digital, line, and MM phono inputs, can stream audio via a network or Bluetooth connection, and can unfold MQA-encoded data. It "continues Cambridge's tradition of offering near-cutting-edge products that don't break the bank," RS wrote. He was impressed by what he heard, finding that the Cambridge sounded "fresh-faced and convivial, with a dynamic spring in its step. There was a confident, unforced quality that let the music unfold gracefully," adding that the amplifier maintained its composure at high volume. JA found that the class-D EVO 150 met its specified maximum power into 8 ohms (150Wpc) and delivered 280Wpc into 4 ohms before clipping. "With the exception of the higher-than-expected levels of noise in its headphone output, the Cambridge EVO 150's measured performance reveals excellent audio engineering," JA summed up. RS was equally impressed, concluding that everything about the EVO 150—its ergonomics, features, streaming app, remote, and, most essentially, sound quality—operated at a high standard. (Vol.44 No.10 WWW)

FEZZ AUDIO SILVER LUNA PRESTIGE: $2995

A push-pull, class-AB1 auto-bias, tubed stereo integrated amplifier using EL34 output tubes that can be operated in tetrode or pentode modes. The input tubes are either 6N2Ps or 12AX7s. AH preferred the 12AX7s, which produced a larger, meatier sound than the 6N2Ps. He also preferred listening in pentode mode, which offered a fuller-bodied and more extended sound. AH's initial impression wasn't positive, as with his high-sensitivity Klipsch La Scalas, the Fezz amp emitted a steady hum. He found that this hum wasn't noticeable playing back music, and ended up finding that the EL34 push-pull circuit produced a well-balanced, punchy, and generally pleasing sound—"these amps tend to be as familiar and comforting as an old flannel shirt." The Silver Luna "sounded like it was putting a slight emphasis on the upper bass, which made its rendering of the electric bass notes sound scary good," he wrote, adding that the Polish amp showed a remarkable affinity for the human voice, "which it reproduced with eerie presence." While AH cautioned that listeners of primarily classical or jazz will probably feel happier with a more pellucid-sounding, better-mannered amplifier, he wholeheartedly recommended the Silver Luna for those who subsist on a musical diet heavy on pop, rock, country, reggae, Afropop, metal, or R&B. In the test lab, the Fezz amplifier's measured performance was a mixed bag. The cleanly extended high frequencies and excellent squarewave performance had to be put against the high source impedance and the relatively high level of second-harmonic distortion, which suggest that the amplifier will sound different with every loudspeaker with which it is paired. And the amplifier only met its specified 35W output power at 10% THD+N, and then only in pentode mode. (Vol.46 No.8 WWW)

HIFI ROSE RA180: $6995

JMu fell in love with the appearance of this steampunk-styled, class-D integrated amplifier from Korea when she first saw it at the 2022 AXPONA. She was equally impressed by its sound quality when she installed the RA-180 in her system. It offers a plethora of features—level meters, a phono MC/MM stage, two rows of speaker outputs to allow operation with two pairs of full-range speakers (two channels or four channels), and switchable channel bridging for greater power—and controls for volume, bass, treble, balance, tone control bypass, biamping crossover frequency and high-frequency gain (to drive a supertweeter), and a choice of five phono EQ settings in addition to RIAA. The RA180 can be controlled with its remote or with HiFi Rose's RoseAMPConnect app for Android or iOS. (The RA180 only recognizes 2.4GHz Wi-Fi networks.) Using her reference MBL 120 loudspeakers, JMu noted that images were realistic, natural in scale: "The presentation felt grounded. Textures were tactile." Changing to bridged output mode, the MBLs' presentation seemed less cohesive, however. JMu tried the RA180's biamping function with the three-way, Triangle Antal 40th Anniversary Edition speakers. Listening to Andrew Bird's *Inside Problems* on vinyl and 24/96 download, JMu noted that regardless of format, "the presentation was smooth, natural, liquid. Bass lines were clean, easy to follow. Recording-venue acoustics cues, such as slight echo on 'Atomized,' were easy to hear—more so than usual." On the test bench, the RA180 with two channels driven in normal mode exceeded its specified power of 200Wpc, clipping at 290Wpc into 8 ohms and 400Wpc into 4 ohms. More power was available in bridged mode, though the amplifier's protection circuitry operated below the actual clipping power. The phono stage was relatively quiet, with accurate RIAA EQ, but the overload margin at the top of the audioband was limited. JMu concluded that "The HiFi Rose RA180 is big on speed, energy, clarity, and detail. You get plenty of power in a single chassis." JCA notes that while the RA180 is unquestionably cool, some of its features, like the built-in crossover

MEET THE NEXT GENERATION

It's taken 10 years for Soulution to improve on the 725. Now the new Soulution 727 is redefining what's possible for preamp performance.

SOULUTION 727 PREAMP

Closer to Reality Than Ever Before

2023 the absolute sound PRODUCT OF THE YEAR AWARD

LOWEST NOISE FLOOR
At -160dB, the 727 sets the new world standard for noise floor, -20dB better than the 725

NEAR PERFECT TIMING
Phase shift of less than 0.1 degrees from 20Hz–20Khz gives 727 unparalleled lifelike imaging

NEW POWER SUPPLY
New breakthrough in power supply architecture reduces energy waste AND greatly extends service life

OPTIONAL PHONO MODULE
Now with greater gain, lower noise, and full logic control of cartridge loading

soulution nature of sound

Visit axissaudio.com or call 866-295-4133 to find an authorized Soulution dealer nearest to you

AXISS AUDIO
axissaudio.com

that's intended for use with supertweeters, are of marginal utility in most systems outside of Asia. (Vol.45 No.12 WWW)

HIFI ROSE RS520: $3695

The Roon Ready RS520 marries a GaN FET–based class-D amplifier to the large, 12.25" wide front-panel touchscreen featured on the Korean company's streaming D/A processors. It offers a plethora of audio and video streaming functionality, as well as offering optical and coaxial S/PDIF inputs, USB ports for attaching local storage, and Wi-Fi and Bluetooth connectivity. RvB controlled the RS520 with the HiFi Rose smartphone app and with all the speakers he used the amplifier found that there was weight, control, authority, clarity, and palpability. "I heard sweet detail up top that didn't become brittle even on borderline sibilant recordings," he wrote, concluding that the HiFi Rose is "a fast, impressively appointed sports car for the price of a Volkswagen Golf. *Fahrvergnuügen* indeed!" In the test lab, the RS520 offered generally excellent measured performance, offering a clipping power of 275Wpc into 8 ohms and a DAC with a choice of multiple reconstruction filters and between 19 and 20 bits of resolution. However, JA noted that the class-D output stage had a higher level of ultrasonic noise than he usually finds with such designs. (Vol.46 No.7 WWW)

LEAK STEREO 230: $1695 WITH WOOD ENCLOSURE, $1495 WITHOUT $$$

This retro-styled integrated amplifier combines old-world features—a phono stage, headphone jack, and tone controls—alongside new-world ones including hi-rez streaming up to 32/768 PCM, native DSD512, full MQA decoding, aptX HD Bluetooth, and HDMI ARC connectivity. The class-A MOSFET output stage offers 75Wpc into 8 ohms and 115Wpc into 4 ohms. (JA measured 80Wpc into 8 ohms and 120Wpc into 4 ohms.) Listening to digital, RS wrote, the Leak's overriding character "was one of musical buoyancy disposed of light and color, with an effortless liftoff of notes," coupled with a sense of soundstage integrity. He found that these qualities extended to the amplifier's JFET-based MM/high-output MC phono stage, though he did concede that the 230's highs might not have been as airy or extended as those from some of the more expensive gear he's heard. Overall, "the 230 is an example of how far the sound quality and versatility of affordable audiophile gear has come in the last few years. ... I didn't hear a $1500 product; I heard a well-designed product regardless of price." JA's findings? "The Leak Stereo 230 amplifier offers excellent measured performance from all of its inputs," he wrote, noting that the digital inputs offer around 19 bits' worth of resolution and the phono input featured very low noise and distortion. (Vol.47 No.1 WWW)

LINE MAGNETIC LM-845IA: $4895

Replacing HR's long-term reference tube amplifier, the LM-518IA, the Chinese LM-845IA weighs a back-breaking 77lb and still uses a single hot-running 845 tube for each channel's output, but has internal component changes and redesigned output transformers, these sourced from Japan. It also uses 12AX7 input tubes, a 5AR4 rectifier, and a pair of triode-operated 6P3P beam tetrodes to drive the grids of what AH described as "those slightly terrifying 845s." The Line Magnetic offers 4, 8, and 16 ohm speaker terminals, three line-level inputs, and a preamplifier input for those wishing to use the LM-845IA as a power amplifier. A nicely machined aluminum remote with volume and mute buttons is included. What AH noticed first in his auditioning were "the hallmarks of a well-designed single-ended triode (SET) amplifier: a bell-like clarity, lots of textural information, and a distinctive three-dimensionality to the sonic images. ... With the Line Magnetic and the 16 ohm taps, the soundstage was expansive in width, height, and depth, with instruments and voices floating free of and well above my Altec Valencia 846A speakers." The LM-845IA's maximum power is specified as 22W. JA found that with our usual definition of clipping, which is when the output's THD+noise percentage reaches 1%, with both channels driven with a 1kHz signal the LM-845IA's 16 ohm tap clipped at just 2Wpc into 16 ohms, though it did offer the specified 22W from this tap at 3.5% THD+N. Unusually, the Line Magnetic's 16 ohm and 8 ohm output transformer taps worked best with impedances that were lower than the nominal tap value. However, these two taps have sufficiently high output impedances that the LM-845IA's sonic character will be different with every loudspeaker with which it is used. The 4 ohm tap has a lower output impedance, JA noted, but this is at the expense of higher distortion, even at low powers, than the higher-impedance taps. He did find, however, that the LM-845IA was significantly quieter than its predecessor. Class B rating reflects high output impedance, which means performance will depend on the loudspeaker used. (Vol.44 No.7 WWW)

LSA VT-70: $1399

The LSA (Living Sounds Audio) VT-70 uses a pair of 12AU7s and a single 12AX7 for the low-level circuitry and a push-pull pair of EL34s for each channel's output. There are 4 and 8 ohm output transformer taps, as well as headphone and preamplifier outputs. The front panel features two VU meters that, in addition to showing signal level, can be used to check tube bias. RvB found that the VT-70 produced possibly the best-reproduced male voice he'd ever heard in his listening room. He commented that the amplifier reproduced what it was given, "adding only a slight caramelish quality," though he did note that it was somewhat on the unforgiving side with overcooked recordings. The low frequencies had "real heft" but the bass still sounded "nimble." He concluded that the VT-70 "provides superlative quality for cheapskates, penny-pinchers, and the merely unwasteful. ... As long as you couple it with reasonably efficient speakers, it can hold its own against upmarket competitors costing several times as much." On the test bench, the VT-70 featured a very high source impedance from both transformer taps and failed by a few watts to meet its specified 35Wpc power, even at 3% THD+N, due to the circuit using a limited amount of loop negative feedback. JA concluded that "the lowest distortion will be obtained from the 4 ohm output transformer tap, especially driving impedances >4 ohms, with no significant reduction in maximum power." (Vol.45 No.10 WWW)

MARANTZ MODEL 40N: $2499

The Model 40n is a remote-controlled, network-connected integrated amplifier with a complete set of digital and analog inputs, including Wi-Fi, HDMI-ARC, USB, and MM phono, and can be controlled with the HEOS app. Specified continuous output power is 70Wpc into 8 ohms and 100Wpc into 4 ohms. Compared with his reference Benchmark and NAD amplifiers, KR noted that the 40n was marginally warmer with vocals. Overall, however, he found that the Marantz's frequency balance was neutral, with tight, clean bass, an open-sounding midrange, and an extended, unstressed treble. The Model 40n "incorporates everything needed for playback from any source; just supply speakers and cables," KR concluded. "The 40n is this century's answer to the AM/FM stereo receiver of the previous one." JA found that the Marantz offered excellent measured performance with all its inputs and exceeded its specified powers, clipping at 74Wpc into 8 ohms and 120Wpc into 4 ohms. However, the headphone output's high source impedance means that it is best suited to high-impedance 'phones like Sennheisers. (Vol.45 No.8 WWW)

MASTERSOUND COMPACT 845: $10,495

This Italian amplifier's class-A output stages each use a single Psvane 845B HiFi Series power triode. Both 4 ohm and 8 ohm output transformer taps are provided. There are both balanced and single-ended inputs—the preamplifier stage employs long-plate JJ ECC802 triodes and TungSol 6SN7GTBs driver tubes. With sensitive DeVore Fidelity O/96 and Volti Razz loudspeakers, KM was wowed by the combination's immense soundstage, and wrote that "music had energy, speed, dynamics, punch, and depth." His conclusion? "The Mastersound Compact 845 hits all my sonic sweet spots: gorgeous, burnished tube tone, palpable instrumental texture, unerring naturalism, lush, rich, transparent midrange, solid bass, open treble, black background, precise layering of instruments and vocal—and the deepest, punchiest soundstage I've heard." Mastersound specifies the Compact 845's maximum power as 30W; JA found that the amplifier only got close to delivering this power as the distortion, which was primarily second harmonic, approached 10%. He also found the Mastersound's output impedance very high, even from the 4 ohm tap, meaning that the amplifier will sound different with every loudspeaker with which it is partnered. (Vol.46 No.5 WWW)

MUSICAL FIDELITY M8XI: $6999

This hefty (101lb), powerful amplifier—JA measured clipping powers of 500Wpc into 8 ohms, 650Wpc into 4 ohms—offers both analog and S/PDIF and USB digital inputs. When JVS switched from his almost six-times-as-expensive reference monoblocks, he found the M8xi's sound via its balanced analog inputs "virtually as pleasing, and spot-on neutral, albeit less transparent and airy and less precise in its depiction of acoustic space." Playing his favorite extreme-bass test track, "Electrified II" by Yello, with his demanding Wilson Alexia 2 speakers, he wrote that "even if [the Musical Fidelity's] bass wasn't as gut-shaking—even if the soundstage didn't seem to reach out to me and gobble me up body and soul—it sounded really good." Turning to the M8xi's digital inputs, JVS felt that these bettered those in the Krell K-300i. He summed up the Musical Fidelity by writing that not only was it the most powerful and least expensive of the seven integrated amplifiers he has reviewed in recent years, it was also one of the best-sounding. (Vol.43 No.10 WWW)

NAD C 3050: $1399, + $500 FOR BLUOS MODULE

The retro-styled, class-D C 3050 LE was released in 2022 to celebrate NAD's 50th anniversary. Only 1972 Limited Edition samples were made—the company was founded in 1972—one of which was reviewed by JA. The LE version sold out quickly but was soon replaced by the standard C 3050, which is the same except for cosmetics and the fact that the BluOS module is optional, adding $500 to the price. The BluOS module works with the Spotify Connect and Tidal Connect apps. In addition to the usual line, phono, and digital inputs and speaker and headphone outputs, the C 3050 offers Direct Live room EQ, full Ethernet, USB, AirPlay 2, Wi-Fi, and Bluetooth connectivity. Analog inputs are converted to digital. JA commented that the C 3050 LE's presentation was very similar to that of NAD's more expensive M10. "Excellent upper-bass articulation was combined with a natural-sounding midrange and clean highs. Stereo imaging was well-defined with good, if not great, soundstage depth," he wrote. With Dirac operating, he found that his KEF LS50s' mid-bass region sounded in better balance with the upper bass and lower midrange. He wasn't able to audition the MM-compatible phono stage, but in the test lab, it offered accurate RIAA equalization, low noise and distortion, and high overload margins. The NAD slightly exceeded its specified power of 100Wpc into 8 ohms. JA's conclusion: "NAD's C 3050 LE is an excellent example of a modern, full-featured, solid state integrated amplifier. But it is its integration with Dirac low-frequency room equalization that enables it to offer pretty much everything audiophiles and music lovers need to enjoy their music at a competitive price." All that should be equally true of the non-LE version. (Vol.46 No.4 WWW)

NAD M10 V2: $2999 $$$ ★

The words integrated amplifier are scarcely adequate to this task: The compact (only 8.5" wide) NAD M10 incorporates the BluOS operating system/music playback app; network, Wi-Fi, and Bluetooth connectivity; analog and digital inputs; support for Tidal, Qobuz, et al.; multiroom capabilities; Dirac Live LE room correction (one hopes not the Delbert Grady sort); and a big "Gorilla Glass" display on its front panel—all this plus a 100Wpc class-D (nCore) amplifier. As for that last bit, JA expressed surprise at how good the NAD sounded, even when compared to a pair of monoblocks with a five-figure price tag. (The NAD actually offered better note definition, if not quite the same degree of deep bass extension and authority.) JA-the-listener concluded that the NAD "offers everything serious audiophiles and music lovers need to enjoy their music," while JA-the-measurer noted that "NAD's M10 packs a lot of well-engineered performance into its relatively small chassis." (Vol.43 No.1 WWW)

NAIM AUDIO UNITI NOVA: $6899 ★

The star of Naim's rebooted Uniti line, the Nova combines an 80Wpc integrated amplifier with a media player and streamer, the latter supporting Tidal and Spotify. The Nova offers Bluetooth aptX HD and Wi-Fi connectivity and provides vTuner Internet radio as well as support for most music-file types, up to 384k PCM and DSD128. All user

controls are accessible via an included remote control, Naim's downloadable app, and a full-color front-panel LCD display that KM described as "lovely," supplemented with a top-panel rotary control. Ken was enchanted with the Uniti Nova's radio function and found its file-playing capabilities ergonomically comforting—"I was surprised by the Nova's ease of setup and practically instantaneous response"—and sonically rewarding: "file after file drove my jaw floorward as my ears reveled in the Nova's beautiful sound." KM's verdict: "the Uniti Nova is practically a bargain. Definitely, effusively, highly recommended." Apart from noting some anomalous behavior with 96 and 192kHz data—their responses were down by 9dB at the ultrasonic frequency of 29kHz—JA wrote from his test bench that the Naim Uniti Nova's measured performance "reveals it to be well sorted, as they say in the UK." (Vol.41 No.3 WWW)

OUTLAW AUDIO RR2160 MK.II: $999 $$$ ★

The RR2160—or, as Outlaw Audio calls it, their "Retro Receiver"—marries a 110Wpc class-AB integrated amplifier to an FM/AM tuner of the traditional sort, along with an MM/MC phono stage. Its tone controls—yes, tone controls!—and bass-emphasis switch hark back to an era of mustaches, flared trousers, and loudspeakers with sculpted-foam grilles, yet the RR2160 doesn't skimp on modern conveniences, including Ethernet connectivity, HD radio, an MP3 input, a headphone amp with independent volume controls, and a 24/192 DAC with USB, coaxial, and optical inputs. After being broken in and warmed up, the Outlaw rewarded HR with "a generously big, warm, articulate sound." Used with a CD transport, the RR2160's Burr-Brown–based DAC didn't reach the same performance heights as more expensive outboard processors, yet nonetheless surprised Herb with its "unfettered verity." The Outlaw's MM phono inputs performed well when addressed with a good-quality step-up transformer, though HR was disappointed by the lack of adjustability in its MC inputs. And its headphone section "far exceeded" HR's expectations. Writing from his test bench, JA noted the Outlaw's "significantly" higher-than-specified output power, the admirably low output impedance of its headphone amp, and its "superb" phono stage, though he was "somewhat disappointed by the measured performance of its digital inputs." HR's conclusion: "a conspicuously good-sounding audiophile product at a ridiculously low price." New version keeps performance the same but eliminates AM radio and adds Wi-Fi. (Vol.40 No.12 WWW)

PATHOS INPOL REMIX MKII: $5495

This elegant-looking, hot-running integrated uses a pair of Electro-Harmonix ECC88 tubes for voltage gain followed by Vishay n-channel MOSFETs biased into class-A in a bridged configuration for current amplification. The Italian manufacturer calls this loop feedback-free, bridged topology "doubleInPoL." There are four RCA input jacks; one set of zzzbalanced XLR inputs; two pairs of pre-out jacks, one RCA, one XLR, and a headphone output. An optional DAC module adds $675 but was not fitted to the review sample. KM found that the Remix worked well with his high-sensitivity, easy-to-drive DeVore Fidelity O/96s, manifesting all its considerable tone, resolution, and drive. The amplifier "presented large, focused, well-defined images with charged, bristling outlines." He felt that the bass was a little soft-sounding, but its strongest trait is its clear, open, communicative midrange, he wrote, adding that the amp's treble is part of its "pleasing, sparkling, high-energy personality." However, KM did note that the treble could sound a little hot with some music. The Remix MkII is specified as delivering 25Wpc into 8 ohms and 38Wpc into 4 ohms. In the test lab, JA found that the amplifier gave 30Wpc into 8 ohms at 3% THD+N and 38Wpc into 4 ohms at 6.5% THD+N. He concluded that this amplifier would work best with high-sensitivity, high-impedance loudspeakers like KM's DeVores, but was concerned by its inability to drive low impedances without what he felt to be excessive levels of harmonic distortion. (Vol.46 No.1 WWW)

PRIMALUNA EVO 400 INTEGRATED: $2495

The Dutch company's new top-of-the-line integrated tube amplifier uses six 12AU7 mini triodes and four pairs of EL34 output tubes, which can be operated in Triode or Ultralinear mode. (Higher-power KT-150s can also be used.) The EVO 400 offers 4 ohm and 8 ohm output transformer taps and there are also headphone, tape monitor, and line-level subwoofer outputs. (An optional moving magnet phono stage costs $249 but wasn't fitted to the review sample.) The circuitry is almost entirely hard-wired—no printed circuit boards are in the signal path. RvB commented on the PrimaLuna's extraordinary clarity and detail retrieval. He compared the two output tube modes and wrote that Ultralinear provided the clearest lens into the music, Triode taking the edge off. At low frequencies, he sometimes heard less control in the bass than he does with solid state amplifiers. "But the music chugged and jived in ways that left no room for disappointment," he noted. The EVO 400 is specified as offering maximum powers of 38Wpc into 8 ohms in Triode mode and 70Wpc into 8 ohms in Ultralinear mode. JA measured 63Wpc into 8 ohms at 1% THD+N in Ultralinear mode, and the specified 70Wpc at 3% THD+N. In Triode mode, the 8 ohm tap gave 33Wpc. JA concluded that the PrimaLuna EVO 400's measured performance was what he would expect from an amplifier with a push-pull output stage that uses paralleled EL34 tubes. The test results suggest that the lowest distortion will be obtained from the 4 ohm tap in Ultralinear mode. (Vol.45 No.6 WWW)

ROGUE AUDIO PHARAOH II: $3995

The Pharaoh II uses Hypex's NCore NC500 modules for its class-D output stages, powered by a hefty linear supply. Two 12AU7 tubes are used for the amplifier's line stage, and three low-noise, JFET-input OPA2134 dual op-amp chips are used for the phono section. The specified maximum power is 250Wpc into 8 ohms and 400Wpc into 4 ohms; JA measured 240Wpc and 380Wpc, respectively. HR found that the amplifier sounded best after being powered up for two days, when he noted that the sound was "elegant and pristine, with exquisite fine detailing set against silent backgrounds." He

www.jmf-audio.com North American and UK distributor: Audio Skies info@audioskies.com +1-310-975-7099

also noted that the Pharaoh II's line-input transparency was noticeably better than that of Rogue's Sphinx V3. With an LP of small-scale Dowland works, HR commented that the phono input was "pure of tone, clear as water, and light on its feet." He summed up the Pharoah II by saying it "delivered enough quiet, clear, clean, effortless class-D power to drive the hard-to-drive . . . GoldenEar BRX and the current-sucking Magnepan .7 speakers," adding that the Pharaoh II's phono stage was the best he'd ever found in an integrated amp. (Vol.45 No.12 WWW)

ROGUE AUDIO SPHINX V3: $1595

Descended from the original Sphinx that HR reviewed in 2014, the V3 is still "an old-school, 25lb, made-in-America integrated amplifier with three line-level inputs . . . and a 12AU7-based, mu-follower preamplifier stage driving a 100Wpc (into 8 ohm), class-D, solid state power amplifier." The phono stage now has adjustable loading and gain so it can be used with both MM and MC cartridges. (The RIAA correction incorporates the IEC-recommended low-frequency rolloff, reaching –3dB at 30Hz.) Headphone output is now based on discrete MOSFET devices, which JA found led to a very low source impedance, appropriate even for low-impedance cans. With CDs, HR found that the Sphinx V3 "delivered a good amount of leading-edge bite and trailing-edge flow. Bass felt quicker and more articulate. The V3 displayed a fun, taut energy the original did not have." He tried the phono input with the Ortofon 2M Black moving magnet and Hana EL moving coil cartridges and concluded that "The Sphinx V3's MM/MC phono input did proclaim the virtues of analog." HR summed up the V3's headphone amp as "not as powerful, dynamic, or transparent as the Schiit Ragnarok's, but it's closer to that than any others I've auditioned." Overall, he summed up the Sphinx V3 as "an unpretentious working-person's amplifier. It delivers music with an eager expressive energy, in concert with a forgiving musical nature." On the test bench, the V3 didn't quite meet its specified power, clipping at 96Wpc into 8 ohms, and the phono stage's RIAA equalization was slightly mismatched between the channels, with the right channel up to 0.9dB higher in level in the treble than the left. (Vol.43 No.8 WWW)

TECHNICS SU-G700M2: $2899.95

This relatively affordable sibling of Technics' SU-R1000, which KM reviewed in Vol.44 No.12, the SU-G700M2, retains several of the SU-R1000's essential features including JENO, LAPC, and GaN FET transistors in the Advanced Speed Silent Power Supply, though it uses MOSFETs rather than GaN FETs for the switching output stage. As well as line and MM/MC phono analog inputs, there are coaxial and optical S/PDIF digital inputs and a USB input. There is a headphone output as well as the usual speaker outputs. Streaming from Qobuz and Tidal via Roon, KM was impressed by the Technics's D/A section, commenting that he "bathed in the G700M2's warm glow of good tone, ample soundstage, forward flow, and solid dynamics allied to copious low-end and detailed treble." He added that while the amplifier imbued files with a sense of warmth, it wasn't overly colored. He also liked the way in which the phono input was sufficiently transparent to reveal the differences between different pressings of the same album. "The G700M2 is a warm-blooded, even-keeled, dynamic, capable amplifier," he concluded. It offers "ample power, robust build, and good value." On the test bench the amplifier exceeded its specified maximum power of 70Wpc into 8 ohms and 140Wpc into 4 ohms, clipping at 80Wpc into 8 ohms and 148Wpc into 4 ohms. JA found that the phono input offered respectable measured performance, especially in its high overload margins. However, he was disappointed by the fact that the analog phono stage and headphone outputs were contaminated with ultrasonic noise. He also noted the presence of high-order harmonics in the loudspeaker output. (Vol.45 No.7 WWW)

VAC SIGMA 170I IQ: $10,000

American-made, well-finished integrated amplifier uses KT88 output tubes in autobiased Ultralinear, push-pull configuration with 2–4, 4–8, and 8–16 ohm output transformer taps. (These are wired in inverted polarity.) Preamplifier stage and optional MM/MC phono stage use 12AX7s. JMu felt that the VAC 170i iQ's sound quality featured a sweet treble, excellent midrange, musicality, and bloom and commented that timbres were more natural than warm, and that bass was substantial, with good definition. "The VAC amp seemed more powerful than its rating suggests, and often delivered solid attacks," she concluded. The Sigma 170i iQ's maximum power is specified as 85Wpc into 4, 8, or 16 ohms. However, on JA's test bench, the VAC amplifier delivered 11.8Wpc into 8 ohms at 1% THD+N and 51Wpc into 8 ohms at 3% THD+N from the 8–16 ohm output transformer tap. Higher powers were available from the 4–8 ohm tap—32.6Wpc into 8 ohms (1% THD+N) and 79Wpc (3% THD+N). The 2–4 ohm tap was probably optimal for real loudspeaker loads, felt JA, as it reached 3% THD+N at 53Wpc into 8 ohms and 75Wpc into 4 ohms. However, the Sigma 170iQ's output impedance was high, especially from the 8–16 ohm tap, meaning that its sound quality will be different with every loudspeaker it is used to drive. Phono input features accurate RIAA equalization, but low overload margins at low frequencies mean that low-output phono cartridges will work better with this input. (Vol.44 No.4 WWW)

VINCENT SV-737: $3499.95

Designed in Germany and made in China, this relatively affordable but versatile integrated combines a tubed input stage with an output stage biased to deliver the first 10W of the maximum 8 ohm power of 180W in class-A. The single AEG 85A2 tube that peers out from the faceplate window is a professional gas stabilizer tube, an integral part of the high-voltage power supply regulation for the preamplifier. The preamplifier stage uses two 6N1P and two 6N2P tubes, offers tone controls, and is fed signal by six pairs of single-ended line inputs. Another pair of single-ended inputs feeds the power amplifier stage directly. Digital inputs include three S/PDIF (one optical, two coaxial), Wi-Fi, and Bluetooth. As well as speaker outputs, the Vincent has preamplifier and headphone outputs. "Out of the box, the Vincent wowed with crisp transients, detailed treble, neutral upper mids, rich, lush lower midrange, and powerful bass," wrote KM. While he found the amplifier largely transparent from the mids up, the Vincent "added a pleasing extra dollop of energy, warmth, and color down low." He liked the sound of the S/PDIF digital inputs, which produced "gobs of air, refined, corporeal images, and a deeper soundstage" compared with his reference Tascam CD player. JA found much to admire in the amplifier's measured performance, though he felt that the digital inputs and headphone output should be regarded as more for convenience than for absolute performance. He also found that the SV-737 didn't quite meet its specified power, delivering 155Wpc into 8 ohms and 240W into 4 ohms at 1% THD+N with both channels driven. However, it appeared that one of the review sample's left-channel tubes was starting to fail; while the right channel offered very low levels of distortion, the left channel's THD was almost 20 times higher, at 0.1% across the band. (Vol.44 No.7 WWW)

WESTERN ELECTRIC 91E: $14,999; $15,999 WITH NICKEL FINISH

This amplifier from the reborn Western Electric company is an intriguing mix of modern technology—the microprocessor-controlled tube biasing and volume control, the comprehensive front-panel display, the patented Steered Current Source (SCS) technology—and single-ended 300B output tubes, the design of which dates back to 1938. The single output transformer tap is optimized for 8 ohm loads. (Optional 4 ohm and 16 ohm transformers are available for $999 each.) KM was impressed by the 91E's low frequencies, which he described as "tight and accurate." He found that the Western Electric delivered "sweet'n'pure triode-treble," which he characterized as "(largely) grain-free." He summed up his auditioning by saying "The 91E is not your traditional treble-and-midrange-champ SET amplifier. In delivering more strength and power without compromising the low end, it's a classy machine that can frame music neutrally in a large soundstage." The 91E's MC/MM phono stage uses op-amp chips and offers a choice of resistive loadings. JA found that the phono stage offered low noise and distortion and accurate RIAA EQ, though he felt that, overall, the amplifier's measured performance was dominated by its use of a single-ended output stage with a 300B tube and no loop negative feedback. The 91E met its specified power of 14Wpc into 4 ohms at 10% THD+N, this predominantly the second harmonic. "Given its high levels of both harmonic and intermodulation distortion, even at lowish powers," he wrote, "it will work best with loudspeakers that have a 4 ohm nominal impedance and high sensitivity." (Vol.45 No.11 WWW)

C

BLUESOUND POWERNODE: $949 $$$

The fourth iteration of this Canadian-designed, Chinese-manufactured, Roon Ready, MQA- and AirPlay 2–capable, class-D streaming amplifier is more powerful than its predecessors. (JA found that it met the specified continuous maximum power of 80Wpc into 8 ohms but didn't deliver higher powers into lower impedances.) Controlling the amplifier with the BluOS app and pairing it with GoldenEar BRX loudspeakers, KM wrote that he was delighted with the sounds the Powernode produced. "The amp struck a good balance of richness and crispness, scale, and density," he noted. With the full-range DeVore O/96 speakers, the Powernode didn't sound as natural and flowing as his reference separates, but KM commented that its clarity and soundstaging were strong, "especially so for an amp that costs so little." He was also impressed by its headphone output and summed up his time with the Powernode by writing "like the original NAD 3020, circa 1980, the Bluesound Powernode is the everyman's (or everywoman's) integrated amplifier for its own time." JA noted that the Powernode digitizes its analog inputs but found that its digital inputs offered good measured results. He concluded that while, to some extent, the Powernode's measured performance is affected by noise contamination from the class-D output stage, overall it did well on the test bench, especially considering its affordable price. (Vol.45 No.6 WWW)

DELETIONS

Bryston B135, Peachtree Audio nova300, discontinued. Jadis Orchestra Black, not reviewed in a long time.

LOUDSPEAKER SYSTEMS

A (FULL RANGE)

AUDIOVECTOR R8 ARRETÉ: $76,500/PAIR
Optional grounding cable adds $3850. (Vol.44 No.9 WWW)
BANG & OLUFSEN BEOLAB 90: $135,000/PAIR ★
(Vol.40 No.1 WWW)
BOWERS & WILKINS 801 D4 SIGNATURE: $50,000/PAIR
(Vol.47 No.3 WWW)
DUTCH & DUTCH 8C: $14,950/PAIR ★
(STANDS NECESSARY)
(Vol.42 No.8, Vol.43 No.4 WWW)
DYNAUDIO CONFIDENCE 30: $24,000/PAIR
(Vol.44 No.8 WWW)
EGGLESTONWORKS VIGINTI: $42,795/PAIR ★
(Vol.41 No.6 WWW)
ESTELON XB DIAMOND MK II: $63,000/PAIR–$70,750/PAIR DEPENDING ON FINISH
(Vol.45 No.11 WWW)
ESTELON FORZA: $169,000–$185,000/PAIR DEPENDING ON FINISH
(Vol.44 No.11 WWW)
FOCAL MAESTRO UTOPIA EVO: $76,000/PAIR
(Vol.46 No.11 WWW)
GOLDENEAR TRITON REFERENCE: $12,500/PAIR $$$ ★
(Vol.40 No.12 WWW)
GÖBEL DIVIN MARQUIS: $89,000/PAIR
Price is for standard finish. (Vol.43 No.10 WWW)
KEF BLADE TWO META: $28,000/PAIR
(Vol.45 No.9 WWW)
MAGICO A5: $26,800/PAIR
(Vol.44 No.7 WWW)
MAGICO M2: $76,500/PAIR
Price now includes nonoptional MPOD Bases. (Vol.43 No.2,

Vol.44 No.3 WWW)

MAGICO S5 MK II M-CAST: $45,000/PAIR ★
Price is with M-Cast (textured powder-coat) finish. M-Coat high-gloss paint adds $5225. (Vol.40 No.2 WWW)

MARTEN PARKER TRIO DIAMOND: $40,995/PAIR AND UP, DEPENDING ON FINISH
(Vol.44 No.6 WWW)

MARTINLOGAN RENAISSANCE ESL 15A: $28,999.98/PAIR ★
(Vol.40 No.1 WWW)

MBL RADIALSTRAHLER 101 E MK.II: $91,000/PAIR ★
(Vol.35 No.4 WWW)

RAIDHO TD3.8: $117,000/PAIR AS REVIEWED
(Vol. .46 No.8 WWW)

ROCKPORT TECHNOLOGIES AVIOR II: $47,000/PAIR ★
(Vol.40 No.8 WWW)

SONUS FABER AIDA: $140,000/PAIR ★
(Vol.41 No.10 WWW)

TIDAL AUDIO AKIRA: $255,000/PAIR ★
(Vol.41 No.11 WWW)

VANDERSTEEN AUDIO QUATRO WOOD CT: $19,200/PAIR ★
Rating assumes it is used with its companion M5-HPA high-pass amplifier. (Vol.42 No.11 WWW)

VIMBERG MINO: $40,000–$41,000/PAIR DEPENDING ON FINISH
Accuton diamond tweeter upgrade (not reviewed) costs $8500/pair. (Vol.43 No.4 WWW)

VIVID AUDIO GIYA G1 SPIRIT: $105,550/PAIR OPTIONAL EXTERNAL CROSSOVER VERSION $105,000 ★ (Vol.41 No.1 WWW)

VON SCHWEIKERT ULTRA 55: $110,000/PAIR $120,000/PAIR WITH FOUNDATION AMPLIFIERS
(Vol.43 No.7 WWW)

WILSON AUDIO SPECIALTIES CHRONOSONIC XVX: $369,000/PAIR IN STANDARD FINISHES
(Vol.44 No.5 WWW)

WILSON AUDIO SPECIALTIES ALEXIA V: $71,000/PAIR IN STANDARD FINISHES
(Vol.46 No. 1 WWW)

WILSON AUDIO SPECIALTIES ALEXX V: $154,000/PAIR
(Vol.44 No. 12 WWW)

WILSON AUDIO SPECIALTIES SASHA V: $48,900/PAIR
(Vol.47 No.2 WWW)

A (RESTRICTED EXTREME LF)

ACELEC MODEL ONE: $6495/PAIR (STANDS NECESSARY)
The internally damped aluminum enclosure boasted the lowest-level panel resonances JA has encountered in >30 years of measuring speakers. HR was equally impressed by the sound of this Dutch two-way standmount, which allies a Mundorf AMT tweeter with a reflex-loaded, 5.9" sliced–paper-cone, ScanSpeak bass/mid driver. He described the Model One as "extraordinarily clear, microresolved, and uncolored," adding that "their clear, expansive soundstage was mesmerizing; it kept my focus on whatever music it was presenting." And the low frequencies? "Overall, the Acelec's bass was tighter, cleaner, went lower, and was more musically satisfying than any of the other speakers I have piled in the hall." JA's measurements confirmed the Model One's specified sensitivity of 84dB/W/m, and while he found a slight excess of energy in the low treble, he noted that the Model One's cumulative spectral-decay plot was impressively clean. (Vol.46 No.8 WWW)

ALTA AUDIO ADAM: $18,000/PAIR–$19,000/PAIR IN ALL FINISHES
A three-way floorstander that uses a 5.75" aluminum-ribbon tweeter, a 6" midrange driver, and an 8.75" anodized aluminum-cone woofer, the Adam features Alta's Extended Transmission Line (XTL) loading for the midrange unit and woofer. This incorporates a short transmission line with no stuffing terminating in a port, which Alta says significantly extends the speaker's low-frequency extension. However, as with Alta's two-way Alyssa, the XTL loading also results in high-Q resonances in the line and port. Nevertheless, RvB liked what he heard from the Adam, writing, "Pure and smooth. Nothing is boxy. ... Remarkable image cohesion; ... transients seemed to travel at the speed of light. ... With every track, there was admirable force and a corporeal quality to the instruments." He did find that the Adam offered a little too much bass energy, though he never found the speaker to sound bloated or flabby."Right now," RvB concluded, "these are the speakers I'd consider most if 20 grand were burning a hole in my pocket." In the test lab, the Adam was relatively easy to drive, but it failed to meet its specified high sensitivity of 91.5dB/2.83V/m by a significant 7.5dB. Its enclosure was respectably inert, though JA noted that the XTL-related resonances mentioned above affect not just the outputs of the twin ports but also those of the woofer and midrange unit. (Vol.46 No.3 WWW)

BOWERS & WILKINS 804 D4: $14,000/PAIR
The floorstanding 804 D4 features what the manufacturer calls a "reverse-wrap cabinet": The elliptical-plan, Matrix-reinforced enclosure has its flat side at the rear, with the Continuum-cone midrange unit and two Aerofoil-cone woofers mounted on the curved front. (The latter are reflex-loaded with a downward-firing port, this raised above the floor by a substantial metal baseplate.) The 1" diamond-dome tweeter is mounted at the front of a 12"-long, tapered tube machined from a solid aluminum billet that sits on the top of the enclosure with two compliant mounts. B&W specifies the sensitivity as a slightly higher-than-average 89dB/2.83V/m, which was confirmed by JA's measurements. However, JA warned that while the 804 D4 is a demanding load at low frequencies, its higher impedance in the mid-treble will make tube amplifiers sound overly bright. The measured performance suggested a somewhat "tailored" response, with a little too much high-frequency energy. Care in setup reduced the effect of this, revealing an uncolored midrange and reasonably extended lows, though the speaker's high-frequency balance will make system matching more difficult than usual. JA wrote that "clarity, transparency, low-frequency articulation, and the absence of midrange coloration" seemed to have had a higher priority than absolute neutrality for B&W's design team. He concluded that the measured issues he found "seemed to step out of the way of the music much of the time." Overall, he found the 804 D4's sound seductive. (Vol.45 No.1 WWW)

CANTON REFERENCE 7K: $6995/PAIR
A handsome three-way tower, 1m tall and finished in high-gloss lacquer, the Reference 7K from German manufacturer Canton uses an enclosure formed from several layers of wood glued together with heat and pressure to achieve a stiff, well-damped structure. A downward-firing port reflex-loads the two 7" woofers, which feature ceramic-tungsten cones, as does the 7" midrange unit. The tweeter uses an aluminum-ceramic-oxide dome. The crossover includes a subsonic high-pass filter that is said to extend the linear low-frequency response of the woofers while minimizing out-of-bandwidth cone excursions. JA found that the Reference 7K's needed to be used closer to the wall behind them than he could arrange in his room. Even so, the lows extended to 32Hz in-room, though the upper bass was somewhat exaggerated. JA found that the Canton's sensitivity was the specified 88.5dB/2.83V/m, but the relatively demanding impedance means that the Reference 7K must be used with amplifiers that don't have problems driving 4 ohms. Overall, JA concluded that the 7Ks offered "powerful-sounding low frequencies, clean and grain-free highs, a coloration-free midrange, high sensitivity and dynamic range, and stable, precise stereo imaging," all at a relatively affordable price. KM agreed with JA's recommendation, writing that "the Reference 7K produced perhaps the widest soundstage I've heard in my small Greenwich Village penthouse pad. Tonally, the Canton bordered on lush, with a clear, refined treble and midrange and focused bass with ample weight. ... The 7K's gorgeous midrange and munificent lower bass made every record sound fat, liquid, and pleasurable." (Vol.44 No.9, Vol.45 No.3 WWW)

ESTELON AURA: $19,900/PAIR
This elegant-looking Estonian floorstander combines a midrange-tweeter-midrange array with a downward-firing 10" woofer. (As the woofer operates below 77Hz, Estelon refers to the midrange units as "mid-woofers.") KR commented that the AURAs sounded "open and detailed and, once properly placed, well-balanced." He found that with classical piano recordings the experience was informative, enjoyable, and totally nonfatiguing. He would have liked a bit more from the lowest notes, but the rest of the spectrum was clean, open, and dynamic. KR found that the choice of amplifier was critical for the AURAs' potential to be fully realized. He summed up his time with the AURAs by writing "They are among the most transparent speakers I've reviewed, and they present voices, instruments, and ensembles with refreshing immediacy and impact. Never did anything, including its bass performance, disturb that enjoyment or distract from it." Although the AURA's sensitivity is specified as 90dB/2.83V, JA's B-weighted estimate was slightly lower, at 86.8dB(B)/2.83V/m. JA also noted that the Estelon is a very demanding load for the partnering amplifier. (Vol.46 No.12 WWW)

FALCON ACOUSTICS "GOLD BADGE" LS3/5A: $3295/PAIR IN BASIC FINISHES (STANDS NECESSARY)
This special edition of Falcon's version of the classic, BBC-designed, two-way minimonitor uses enhanced-size BBC Specification Transformer–style inductors, graded polypropylene-film capacitors, ultralow-inductance resistors, and a new, Falcon-designed multilayer FL6/23 printed circuit board. "Falcon's Gold Badge LS3/5a can deliver enjoyable, well-sorted renditions of all types of music," HR wrote, "but intimate vocal, solo piano, and chamber-instrument fare is the reason people like me are lifelong 5a devotees." He added that "music flowed extra-easily and extra-quietly out of the Gold Badge boxes. The sound seemed more relaxed and less restrained than the classic version." He wrote that the "Gold Badge" is "the best LS3/5a ever produced for general consumption." JA found that the "Gold Badge" measured similarly to his 1978 Rogers LS3/5a and was overall smoother-balanced than the basic Falcon LS3/5a. He concluded that "The Falcon LS3/5a Gold Badge's measured performance ... confirms that 46 years after the introduction of the original, this is still a competitive loudspeaker." (Vol.44 Nos.4 & 5 WWW)

GENELEC G THREE: $1590/PAIR WHITE, $1390/PAIR BLACK (STANDS NECESSARY) $$$
A small, active, two-way speaker with a cast-aluminum enclosure, evolved from the Finnish company's studio monitors, the G Three is supplied with an Iso-Pod isolating base, or can be used on stands or with wall-mounting hardware. An array of DIP switches allow the sound to be tailored for the speaker's positions—in free space, nearfield, in a corner, or on a table or desktop. There are both RCA and XLR inputs and the drivers are a 5.125" polypropylene-cone woofer and a 0.75" aluminum-dome tweeter, the latter mounted at the rear of a recessed waveguide. HR noted the "pure and precise" sound, "unspoiled clarity," and "uncompressed transparency," coupled with a surprising amount of well-articulated bass for such a small speaker. He gave it his highest recommendation, writing that the G Three performs like an authentic studio monitor, providing copious detail without losing any of music's beauty or poetic content." JA was similarly impressed by this loudspeaker's measured performance, noting the G Three's flat frequency response, well-controlled dispersion, and a clean cumulative spectral-decay plot. (Vol.45 No.8 WWW)

JOSEPH AUDIO PERSPECTIVE2: $16,999/PAIR ★
Introduced in 2013, the floorstanding Perspective started life with a SEAS 1" impregnated-fabric dome tweeter and two SEAS 5.5" magnesium-cone woofers. After its 2019 upgrade to Perspective2 status, the tweeter remains, but the woofers have been replaced with 5.5" SEAS Excel Graphene drivers, in which magnesium-alloy cones are coated with a graphene-based "nanomaterial." JA, who in 2014 reviewed the Perspectives, wrote that the Perspective2s "produced the same wide sweep of full-range sound and tangible stereo imaging" that impressed him with the originals: "The low frequencies were still rich, but perhaps the articulation was

Experience the Pinnacle of Sound! Introducing the all New KWM-88MK2 Amplifier.

This latest offering from Rogers High Fidelity is your gateway to unparalleled audio realism.

Rogers High Fidelity amplifiers are 100% analog. Always have been...always will be.

Lifetime Warranty...Aerospace Components... Handmade in the USA Only from Rogers High Fidelity.

You can control the worlds best sound right from your smartphone with the Rogers App.

Rogers®
HIGH FIDELITY

10 Holden Street
North Adams, MA 01247
845.987.7744

RogersHighFidelity.com

Hear the warmth • See the precision • Born From Aerospace

even better." He also found the Perspective2s to be more tolerant than their predecessors of overly bright recordings. Reporting from his test bench, JA confirmed that, like the original, the Perspective2 was easy to drive if somewhat less sensitive than average and concluded by recommending the new speaker "even more highly than I did the original." In use by MT. (Vol.37 No.7, Vol.42 No.7 WWW)

KEF LS50 META: $1599.99/PAIR (STANDS NECESSARY) $$$

This new version of KEF's classic LS50 standmount is a little heavier than the original. It still uses a coaxial Uni-Q drive-unit, but this new one has a cone-neck decoupler, a symmetrical motor system, and an absorptive, dual-layer disc, 3" in diameter and 0.43" thick, behind the drive-unit. This disc is made from a synthetic substance incorporating Metamaterial Absorption Technology (MAT) with 30 tubular channels, each acting as a narrow-band Helmholtz resonator. The structure is said to absorb 99% of the unwanted sound radiating from the rear of the driver at 620Hz and above. The Meta's midrange and low frequencies sounded identical to those of the original LS50, JA decided, but the new speaker's measured response was flatter in the presence region, and there was a little more output in the high treble. Perhaps most importantly, the Metas "painted a transparent window into the recorded soundstage," he wrote. He was continually surprised by how recordings he thought he knew well were presented with detail that he had not fully appreciated with the earlier LS50s. JA estimated the LS50 Meta's voltage sensitivity as 84.5dB(B)/2.83V/m, which is the same as that of the original and within experimental error of the specified 85dB. He concluded that, compared with the 2012 LS50, the Meta "presents a more transparent window into the recorded soundstage without compromising the ability to communicate the music's message." (Vol.44 No.1 WWW)

KEF LS60 WIRELESS: $4999.99/PAIR $$$

This DSP-controlled, three-way, powered floorstander offers an analog input, Ethernet, optical and coaxial S/PDIF digital inputs, a UPnP-compatible wireless operation with Roon, AirPlay 2, Google Chromecast, and Bluetooth 4.2, and a subwoofer output. A coaxial Uni-Q drive unit that incorporates the metamaterial technology introduced with other recent KEF speakers covers the treble and midrange, while two sealed-box–loaded woofers on each sidewall handle frequencies below 340Hz. The KEF Connect app is used for setup, adjustment of sensitivity, bass extension, high-frequency balance, the subwoofer settings, and optimization of the low-frequency balance for specific room placements and behavior in the time domain. KR noted that the LS60's tonal balance was reassuringly neutral/natural with palpable bass that belied the speakers' small size. "The LS60s did not sound small," he wrote, adding that they sounded much like the Class A (Full-Range) KEF Blade Two Meta. In direct comparisons with the Blade Two Metas, he found that the latter demonstrated an even more spacious soundstage and sounded firmer and fuller through the mid and upper bass, "but the speakers were surprisingly close." KR was puzzled by his experience of the time-domain–correcting Phase Control, as with some kinds of music he preferred the presentation with this turned off. (Latency with the control off was 10ms; with the control on it was 14.5ms, which may be an issue with video synchronization.) JA the measurer noted that the LS60 offered a superbly flat, even frequency response, well-controlled dispersion, and an inert enclosure. KR's conclusion? "The LS60 Wireless is a near–state-of-the-art sound system that will fit in almost any room and play any source with the addition of only a smartphone loaded with music or a streaming app." (Vol.46 No.3 WWW)

KLIPSCH LA SCALA AL5: $13,198/PAIR

This two-enclosure floorstander may be large and heavy—it weighs 201lb—but this is the smallest of Klipsch's fully horn-loaded models. The upper enclosure combines a 1" compression-driver tweeter loaded with a Tractrix horn with a 2" compression-driver midrange unit loaded with an exponential horn. The lower cabinet contains a 15" fiber-composite-cone woofer that fires into a folded horn. AH found that the speakers sounded more open without the attractive magnetic grilles. "Their ability to (re)produce lifelike dynamic contrasts and scale is unmatched by any speaker I've had in my home," he wrote, adding that he could set the volume "anywhere from Mozart-trio moderate to Mastodon-concert loud with no audible penalty." This will be due in part to the La Scala's extraordinarily high sensitivity—specified as 105dB/2.83V/m. JA's B-weighted estimate was lower, at 101.3dB(B)/2.83V/m, but this was still the second-highest sensitivity of all the speakers he has measured. The high sensitivity correlates with relatively limited low-frequency extension; the woofer rolls off below 50Hz. Nevertheless, AH commented that "despite being limited, the Klipsches' bass is in no way wimpy: When called upon, the big horns emitted bass notes as stentorian and downright scary as any speakers I've lived with." He concluded that "the Klipsches' frequency response sounded just a shade richer than neutral, with an extended but mellow top end and some added presence in the lower midrange and upper bass. This euphonic voicing made poor recordings easier to listen to and good recordings propulsive and fun," though he warned that "frequency-response-graph enthusiasts for whom absolute neutrality is paramount should probably look elsewhere." (Vol.46 No.4 WWW)

MARTEN OSCAR DUO: $7895/PAIR (STANDS NECESSARY)

The least costly loudspeaker from this Swedish manufacturer, the rear-ported, standmounted Oscar Duo combines a 7" ceramic-cone mid/bass driver with a 1" ceramic-dome tweeter. Specified sensitivity is 86dB/2.83V/m, which was confirmed by JA's measurements. MF was impressed by this small-but-heavy speaker's low frequencies: "These speakers went deep," he wrote. "Despite the robust bass produced by this small speaker, decay was fast, clean, and close to overhang-free." He also commented on the Marten's low mid-bass coloration and freedom from boxy resonances. The Oscar Duo's frequency response is optimized on an axis midway between the tweeter and woofer on the sloped-back baffle. MF found that toeing-in the Oscars to the listening position produced the best central-image focus and high-frequency response, with no perceptible beaming. JA was also impressed by the excellent sound quality. Reporting from his test bench, he concluded that the Marten Oscar Duo's excellent measured performance is indicative of some equally impressive engineering. Matching stands cost $995/pair. (Vol.43 Nos.11 & 12 WWW)

MBL RADIALSTRAHLER 120: $26,500/PAIR (STANDS NECESSARY)

This three-way standmount uses the German company's unique, omnidirectional Radialstrahler technology for its midrange and treble drivers, coupled with two reflex-loaded woofers. JMu felt that the 120's bass seemed to extend deeper than the specifications or JA's measurements indicated. But what impressed her the most was how "strikingly coherent" the MBLs sounded. "They delivered seamless sound from top to bottom, which made the presentation seem more realistic. Music sounded 'of a piece,' seamlessly woven within the soundstage," she wrote. Though JA's estimate of the 120's sensitivity was slightly higher than the specified 79dB, this was still significantly lower than average. However, as this is an omnidirectional loudspeaker, the in-room subjective sensitivity will be somewhat higher. "The MBL 120s don't favor one genre of music over another," JMu concluded, adding that they sounded "big and full—voluptuous at times, especially when you turn up the volume." Matching stands cost $1850/pair. (Vol.44 No.11 WWW)

MONITOR AUDIO PLATINUM 300 3G: $17,900/PAIR

This three-way floorstander features a folded ribbon tweeter, a 4" midrange unit, and two reflex-loaded 8" woofers. The midrange and woofer cones are made from a three-layer diaphragm, with a skin of ceramic-coated aluminum in front of a Nomex honeycomb and two layers of carbon fiber. The Micro Pleated Diaphragm (MPD) III tweeter is said to extend to above 60kHz. There are two ports on the rear panel, one of which can be blocked if the low bass sounds excessive. JA did indeed block one of each speaker's ports, as the port tuning frequency of 33Hz coincided with that of the lowest mode in his room. JA noted the excellent low-frequency extension and was impressed by the Monitor Audios' imaging accuracy, which, he noted "was more like what you get from a pair of high-performance minimonitors." In the test lab, JA's measurements confirmed the Platinum 300 3G's specified free-field sensitivity of 88dB/2.83V/m, though it was also revealed that this is a relatively demanding load. The speaker's farfield response was flat in the low- and mid-treble regions but rose by a few dB in the top octave. JA didn't find this to be an issue and summed his time with the Monitor Audios by writing "With its clean, uncolored midrange, its well-controlled, extended low frequencies, its well-defined stereo imaging, and its ability to play much louder than my usual minimonitors, Monitor Audio's elegant-looking Platinum 300 3G is a high-performance loudspeaker. Strongly recommended." (Vol.46 No.11 WWW)

MONITOR AUDIO SILVER 500 7G: $3400/PAIR $$$

This well-finished, three-way, four-driver, bass-reflex tower impressed RS: "What these speakers said was spoken with a clarity and expressive ease. ... Dynamic and transient-fast, it sounded almost hornlike." The Silver 500 7G's twin ports can be blocked with supplied plugs, but RS felt the sound with them closed was warmer but a little "woolier" than with them open. "Without bungs, the picture was in focus, linear from top to bottom," he wrote, concluding that "The whole wide frequency range of music sounds well-behaved, smooth, and of a piece. Notes seem to emanate from air, not from wooden boxes. The notes slide and shoot like stars." The Silver 500 7G's high specified sensitivity of 90.5dB/2.83V/m was confirmed by JA's estimate. JA was also impressed by the Monitor Audio's superb measured performance. "That it achieves this level of performance at an affordable price is even more commendable," he concluded, a sentiment that was echoed by RS: "The Monitor Audio Silver 500 is one of the great audio deals of the pandemic era." (Vol.45 No.2 WWW)

PARADIGM FOUNDER 120H: $8998/PAIR

The floorstanding 120H, the flagship of the Canadian company's six-model Founder series, uses three powered woofers with CarbonX cones, the behavior of which can be optimized with the ARC Genesis app. (A USB microphone for use with the app is included.) The 6" alloy-diaphragm midrange unit is mounted behind a Perforated Phase-Aligning Lens, which Paradigm claims results in a smoother frequency response, both on-axis and off-axis. The midrange and bass drivers are decoupled from the cabinet by an "Advanced Shock-Mount Isolation Mounting System." The 1" alloy-dome tweeter is mounted at the center of a conical waveguide. The optimal listening axis is said to be between the tweeter and midrange, which is 39" from the floor. RvB found the 120H's trickier to place than most speakers, but once their positions had been optimized, he was impressed by what he heard: "It was the *balance* that was thrilling, and the continuity up and down the frequency range. Everything sounded 'together,' coherent, right." The Paradigms offered superb low-frequency extension, though RvB found that without ARC room optimization there was a little too much bottom-octave energy. Even so, he wrote that "Bass-wise, the Founders, on spikes, acted like a velvet sledgehammer or an iron fist in a silk glove, if you like that sort of thing. I do." JA's estimate of the 120H's sensitivity was 2dB lower than the specified 92dB(B)/2.83V/m, but this is still higher than average. He also noted that the large, trapezoidal cabinet was well-damped, though he found that the speaker's quasi-anechoic response featured a slightly rising high end, which might correlate with need for careful setup. (Vol.45 No.12 WWW)

PARADIGM PERSONA 5F: $17,999.99/PAIR ★

Q: What do you get when a company that specializes in high-value, high-tech loudspeakers sets its sights on the High End? A: Something very like the new Paradigm Persona series—so says KR, who tried the Persona 5F in his reference system and declared it "an auspicious entry into the thinner air of high-end audio." Kal also suggested that the key word in the Persona story is beryllium, as in the 5F's 1" beryllium-dome tweeter and 7" midrange driver. The speaker's three 7" woofers have aluminum cones and are loaded by a bass-reflex enclosure made from seven layers of HDF, bonded to one another under high pressure, with RF waves used to cure the adhesive. (Try making something like that in your garage!) According to KR, that all adds up to a pair of

“Somewhere over the rainbow...”

The I1 Integrated Amplifier

- User configurable, expandable and uniquely versatile – to meet all system and source requirements.
- Audirvana, Roon Ready and high-res CH Link HD compatible for disc replay
- Sophisticated current-sensing phono option with two inputs and five EQ curves.
- Balanced and single-ended analog inputs.
- 100 W/Ch with user adjustable input gain and global feedback

The single box solution that really does do it all...

plays with AUDIRVĀNA · DSD Direct Stream Digital · MQA · DXD Digital eXtreme Definition · UPnP · roon ready · qobuz · TIDAL

www.ch-precision.com • inquiry@ch-precision.us

L-509Z

HONORING TRADITION
WHILE INCORPORATING SIGNIFICANT INNOVATION

LUXMAN

LuxmanAmerica.com

well-balanced, full-range speakers that favor no one style of music, and that "disappear" from the soundstage "like aural Cheshire Cats." In measuring the Persona 5F, JA discovered slightly lower than the specified sensitivity (88 vs 90dB), and an impedance characteristic that augurs in favor of "an amplifier compatible with 4 ohm loads." Those quibbles aside, he proclaimed the Paradigm an example of "textbook audio engineering." (Vol.41 No.10 WWW)

PERLISTEN S7T: $19,990/PAIR IN HIGH-GLOSS BLACK OR WHITE (SPECIAL EDITION FINISHES ARE AVAILABLE AT $21,990/PAIR

A four-way tower that can have its four woofers reflex- or sealed-box–loaded, the S7t features a unique high-frequency driver array with a beryllium-dome tweeter mounted in the center of a "Directivity Pattern Control" waveguide and two units with "thin-ply carbon" diaphragms above and below it. All three units operate in the low treble, while just the central tweeter operates above 5.5kHz. After some experimenting with placement, KR found that listening to Ry Cooder's *Jazz*, "placement of the instruments was perfectly clear. More than that, the relationships between them and their tonal characteristics were more consistent and seemed less artificial." He was also impressed by the S7t's dynamic capabilities, and while the Perlisten's low-frequency extension, even when reflex-loaded, didn't extend to 20Hz, the bass was "full, dynamic, taut, and balanced at all listening levels," obviating the use of a subwoofer. JA's measurements confirmed the high specified sensitivity of 92dB/2.83V/m, but JA warned that the S7t should be used with amplifiers that don't have problems driving 2 ohms. JA commented that "To say that I was impressed by the Perlisten S7t's measured performance would be an understatement. It typifies excellent loudspeaker engineering." KR concluded that the S7t was overall the best speaker he'd heard in his room. (Vol.44 No.12 WWW)

STENHEIM ALUMINE THREE: $33,950/PAIR

This three-and-a-half-way tower from Switzerland mounts its four drive units in a slender, internally braced, aluminum enclosure. HR found that, driven by RAAL's low-power HAS-1b amplifier, the Stenheims, playing music at his normal listening levels, "exhibited a beautiful spectral balance and a controlled, well-focused presentation." While the midrange was flat-out gorgeous with the RAAL amplifier, with the Pass Labs XA25 "all nine of the Stenheim's octaves were cloudless, blue-sky bright. ... The XA25 seemed to add a full octave of clear sky at the top." JA found the Alumine Three's sensitivity was a couple of dB lower than the specified 93dB, but his estimate was still significantly higher than average, and he added that the speaker is a relatively easy load. He also described the Stenheim's behavior in the frequency domain as "mostly smooth, even." HR summed up the easy-to-drive Alumine Three as offering excellent bass power and extension, an absence of hashy, low-level breakup sounds near the limits of the drive units' passbands, and "extraordinary midband lucidity." (Vol.44 No.10 WWW)

TAD CE1TX: $35,000/PAIR W/STANDS (STANDS NECESSARY)

A heavy (63.9lb) three-way standmount that features TAD's coaxial "Coherent Source Transducer" (CST) driver, which combines a 5.5" magnesium midrange cone with a concentrically mounted beryllium-dome tweeter. Frequencies below 250Hz are handled by a woofer with an aramid-composite cone; this unit is reflex-loaded with bidirectional, slit-shaped ducts with flared openings behind the speaker's sculpted-aluminum side panels. "The CE1TX loudspeakers sorted and presented the densest, most complicated and overproduced music in ways that made it more intelligible and agreeable," wrote HR. Using a variety of amplifiers, from low-powered tubed designs to high-power solid state models, HR summed up the TAD speaker as "extremely well-sorted," "exposes everything," and "flawless tone," with "an innate ability to present instruments and voices in a most agreeable, seductive manner." His overall conclusion: "This TAD is the finest example of speaker engineering I've ever encountered. Absolutely Class A." (Vol.46 No.6 WWW)

THRAX SIREN: $13,600/PAIR

See Martin Colloms's review in this issue. (Vol.47 No.4)

VIVID AUDIO KAYA S12: $6900/PAIR (STANDS NECESSARY)

The open-backed, aluminum-dome tweeter in the little Kaya S12 is the same one found in Vivid's top-range Giya speakers and is coupled with a reflex-loaded, 4" aluminum-cone mid/bass driver. The cabinet is made from two layers of polyurethane, with the space between them broken up by tubular absorbers that also act as stiffening. HR noted that the S12s were above average in apparent speed, transparency, and resolution, but also a little lean in the bass and noisy through their upper octaves. However, when he bolted the speakers to their dedicated 24" stands, he found that the bass became fuller, solider, and deeper and focus and clarity increased. "The spindly stands added a measure of sheen and a richer, more polished tone that made the speakers sound less like a racecar and more like a luxury car," he wrote. His conclusion? "Overall, the S12s are shy on bass but easy to drive; lightning fast, uber-transparent, micro-detailed, and extremely three-dimensional. Their defining trait is the beauty and intricacy of their projected soundspace." JA was equally impressed. As well as a measured 86.3dB(B)/2.83V/m sensitivity and a relatively easy-to-drive impedance, the Kaya S12 offers an extraordinarily flat frequency response, well-controlled dispersion, and a clean waterfall plot. "The Vivid Kaya S12's measured performance is indicative of the superb loudspeaker engineering I have come to expect from this brand," he concluded. (Vol.45 No.4 WWW)

WILSON SABRINAX: $21,500/PAIR IN STANDARD FINISH

This floorstanding, three-way design marries the reflex-loaded pulp-cone woofer from the Wilson Sasha DAW with a pulp-cone midrange unit and the Mk.V version of the 1" Convergent Synergy silk-dome tweeter, which is shared with Wilson top-model designs. The SabrinaX is also one of the first speakers to use a capacitor produced in-house after Wilson acquired the Reliable Capacitor company. The use of Wilson's proprietary, mineral-loaded, dense X Material for the Sabrina's construction has resulted in a "quieter" enclosure than that used for the original Sabrina (reviewed by RD in May 2016). BD found that the soundstage "was huge," stretching "waaaaay outside the speakers," and that it "created detailed, tangible images to the very edges. It was deep as well, though not quite as deep as it was wide." There was also more power and intensity than he was used to hearing. The woofer's alignment is tuned for clarity rather than maximum bass weight, but the speaker's low frequencies will be reinforced by careful placement and the usual room gain. BD concluded that while this may be the Utah manufacturer's smallest, least expensive floorstanding speaker, "it's full of Wilson's latest and greatest everything." JA's estimate of the speaker's sensitivity was a usefully higher 89dB/2.8V/m compared with the specified 87dB, though the SabrinaX's impedance was relatively hungry for current in the bass, mandating careful choice of amplifier. Custom colors add $1000/pair. (Vol.44 No.3 WWW)

B (FULL RANGE)

AUDIOVECTOR QR 7: $6500/PAIR $$$

A large, three-way tower, the Danish QR 7 combines an AMT tweeter with a "Pure Piston Technology" midrange unit and twin "Pure Piston Technology" woofers. All three of the lower-frequency drivers use aluminum-sandwich diaphragms, and the woofers are reflex-loaded with a bottom-firing port. JA found that the speaker's weighty, extended low frequencies made setup tricky, but other than a slight excess of energy in the upper midrange, he ended up with a smooth, even tonal balance from the low bass upward. Stereo imaging was precisely defined. JA felt that the QR 7 will work best in medium- to large-sized rooms. His estimated sensitivity was slightly lower than the specified 90.5dB/W/m, at 88.7dB(B)/2.83V/m, though this is still higher than average. (Vol.45 No.9 WWW)

JBL 4367 STUDIO MONITOR: $16,500/PAIR

This massive (119lb), retro-styled, sensitive, two-way floorstander marries a 15" woofer, reflex-loaded with twin ports, to a horn-loaded compression tweeter with two polymer diaphragms, each with its own voice-coil, neodymium magnet, and motor. AH found that the big JBLs proved remarkable in their ability to play (very) loudly without compression or distortion. He noted that the JBLs' portrayal of detail and atmosphere was superb and concluded that this loudspeaker "reproduced music in an utterly neutral, even-handed way, sounded robust while resolving lots of detail" and produced deeper and tighter bass than his vintage Altecs. JA was impressed by the JBL's measured performance. His estimated B-weighted sensitivity was close to the high specified 94dB/2.83V/m at 92.7dB(B)/2.83V/m, its low frequencies appeared to be tuned to be maximally flat, in textbook manner, and the farfield response was impressively even. In an email to JCA, AH noted that despite the JBL's high sensitivity, it is not a good match for low-power amplifiers (below, say, 50Wpc). (Vol.45 No.5 WWW)

KLIPSCH FORTE IV: $4998/PAIR

On its surface, the Forte IV appears almost unchanged from its predecessor, the Forte III that KM reviewed in Vol.42 No.8. The floorstanding, horn-loaded IV's specifications are identical to those of the III, but there are differences in the details. While the 12" woofer and 15" passive radiator are unaltered, the titanium-diaphragm high-frequency compression driver now has an ABS phase plug and the midrange unit is now a Celestion polyimide-diaphragm compression driver. Perhaps most significantly, the crossover has been completely redesigned. The result, according to KM, was a refinement and poise that the III, for all its virtues, lacked: "The IV sounded smoother and richer than the III from the midrange through the upper treble, and the soundstage was deeper." The IVs "rocked" dynamics and visceral textures, found KM, who concluded that for the extra $500 over the price of a pair of Forte IIIs, the Forte IV was "more coherent, sweeter, smoother, and more refined, with a better-defined top end, a warmer midrange, and the same trademark dynamics and low-end weight as the previous Forte version." (Vol.44 No.9 WWW)

PSB SYNCHRONY T600: $8999/PAIR

The floorstanding T600 houses each of its three 6.5" woofers in its own vented subenclosure and marries them to a 5.25" midrange unit and a 1" titanium-dome tweeter, with, unusually, the midrange unit mounted above the tweeter. "PSB's Synchrony T600 stepped out of the way of the music being played, imposing almost no character on the sound other than a slightly mellow high treble and a slightly forward midrange," JA wrote. He found that the stereo imaging was "stable and precise" and that the bass was "extended and clean-sounding." Rubber plugs are supplied to block one or two of the speaker's three reflex ports, to allow its low-frequency in-room balance to be optimized. JA noted that the PSB's farfield response on the midrange axis was commendably even, though his estimate of the T600's sensitivity was slightly lower than the specified 89dB. The T600's impedance measurement implies that this speaker is a relatively demanding load. Price includes IsoAcoustic GAIA II isolating feet. (Vol.44 No.11 WWW)

TEKTON MOAB BE: $30,000/PAIR

See Rogier van Bakel's review in this issue. (Vol.47 No.4)

VOLTI AUDIO RAZZ: $7500/PAIR ★

This beautifully constructed, high-sensitivity tower combines a horn-loaded 1" tweeter with a horn-loaded 2" midrange compression driver and a reflex-loaded 12" woofer. "The ability of Volti Audio's Razz to portray music of any genre with scale, realism, and thrilling dynamics is unmatched by any loudspeaker I've had in my system," wrote TG, adding that while the Razz demonstrates a lovely midrange liquidity, "there's no sacrifice of detail." While Volti specifies the Razz's sensitivity as 97dB, JA's estimate was somewhat lower at a still-high 93dB(B)/2.83V/m, though JA did note that the Volti's highish impedance makes the speaker an easy load for amplifiers. Low and high frequencies are boosted compared to the midrange level, though the treble can be fine-tuned by experimenting with toe-in. Price is for walnut, mahogany, black cherry, or maple veneer. Premium finishes add $1000/pair. Volti allows the user to tweak the output of the tweeter and midrange driver by replacing crossover resistors, which may be accessed in a recess on the back panel. For his Follow-Up, KM tried juicing the midrange but returned the Razz

THE GIRO MK II

A MINIMALIST MASTERPIECE WITH A HIGH-PERFORMANCE PEDIGREE

AMG
ANALOG MANUFAKTUR GERMANY

"The Giro remains one of the most compact and elegant high-end turntables available...

...precision is watchmaker level; everything fits snugly and adjusts with utmost smoothness..."

-Michael Trei, Stereophile

For years the **AMG Giro** has occupied a unique space in the world of analog audio, offering a rare combination of performance and style. The new **MK II** version realizes an even higher level of analog excellence. AMG's company head and master technician Julian Lorenzi has overhauled every critical component of the turntable, resulting in testable, tangible, and audible improvements, all the while maintaining the simple beauty and architectural form of the original.

- 12lb rim-weighted POM platter, 40% more massive than the original, delivering reference level speed performance and vibration damping
- Massive solid aluminum billet plinth with internally decoupled motor mount and height adjustable feet
- Ultra-quiet Swiss-made 12v DC motor with reduced pulley diameter for improved speed stability and increased dynamics
- High-mass, hydrodynamic lubricated bearing with newly designed two-tier subplatter for improved mechanical efficiency and perfect platter coupling
- Larger 25mm solid aluminum tonearm mount for increased mounting rigidity and allowance for custom tonearm drilling
- 9W2 or 9WT Turbo tonearm featuring AMG's patented dual-pivot vertical bearing
- AMG's unique decoupled spindle/bearing interface for complete mechanical isolation of the record
- Capacitive touch speed selection controls with built-in electronic speed fine-tuning
- Adjustable AMG Reflex Clamp for perfect record coupling and warp flattening
- All parts hand-crafted at AMG's precision factory in southern Germany

SIERRA SOUND

Distribution in USA and Canada by Sierra Sound. For more information, please email info@sierrasound.net or visit www.sierrasound.net

to its factory setup for his auditioning. He wondered: Is the $7500/pair Razz as good as the $16,000/pair Volti Rival that he reviewed in June 2017? "Maybe," he wrote, adding that the Razz's demeanor seemed very much the same as that of the Rival, just on a smaller scale, with the same balanced sound, even temperament, and genre-agnostic capabilities. "I can say this much with confidence," he concluded. The Razz "will get you close to the Rival experience for considerably less money." (Vol.43 No.8, Vol.46 No.12 WWW)

WHARFEDALE HERITAGE SERIES DOVEDALE: $6995/PAIR (INCLUDING STANDS)

See John Atkinson's review in this issue. (Vol.47 No.4)

B (RESTRICTED LF)

BOWERS & WILKINS 705 S3: $3400/PAIR (STANDS NECESSARY)

The elegant-looking, two-way standmount combines a carbon-diaphragm tweeter in B&W's familiar bullet-shaped enclosure with a reflex-loaded, Continuum-cone woofer. KR found that the matching FS-700 S3 24" stands ($799 pair) were essential for situating the tweeters at ear level and that minimal toe-in expanded the soundstage while avoiding on-axis brightness. He commented that three qualities of the 705s were evident: satisfying bass output (belied by their size); great detail and presence; and a wall-to-wall soundstage. "Their midrange and treble resolution is outstanding, and their bass is musically satisfying," KR concluded. JA's measurements indicated that the sensitivity was slightly higher than the specified 88dB/2.83V/m, but this will be due in part to the fact that the on-axis response slopes upward in the treble, peaking by almost 10dB at 10kHz. He commented that this behavior will not be heard as "brightness" as such. Instead, it will add "air," "transparency," and "openness" to the perceived balance. But it will make system matching tricky and may emphasize surface noise with vinyl playback. (Vol.46 No.7 WWW)

CHARIO AVIATOR AMELIA: $8400/PAIR

This three-way, Italian tower mounts one of its 5.1" woofers on the rear of the natural wooden enclosure, the other firing downward, next to the reflex port on the base. The 38mm silk-dome tweeter sits below the 5.1" midrange unit. The Chario Aviator Amelia's delivery "seems unforced and easy," wrote JMu, "but not 'easy' as in laid-back. Easy as in effortless." She noted the Amelia's "smooth, vivid naturalism, ... big on immediacy—not shy about delivering a punch." JMu did comment that with some albums the Chario's high end seemed slightly exaggerated and in the test lab, JA found that the on-axis response did indeed peak in the top octave, notably so with tube amplifiers. However, as the speaker is very directional in this region the Amelia's treble balance can be adjusted by experimenting with toe-in: "No toe-in and the top octaves will be too mellow," he wrote, but warned that "complete toe-in to the listener position and the high treble will sound fizzy." His estimate of the Chario's sensitivity was inconsequentially lower than the specified 90dB, at 88.6dB(B)/2.83V/m. (Vol.45 No.6 WWW)

DEVORE FIDELITY ORANGUTAN O/93: $8820/PAIR $$$ ★

Made in Brooklyn, New York, the Orangutan O/93 is a two-way floorstanding loudspeaker with a SEAS 1" soft-dome tweeter—the same one used in DeVore's upmarket O/96—and a 10" paper-cone bass/midrange driver. It has a claimed sensitivity of 93dB and a nominal impedance of 10 ohms. The beautifully finished cabinet is made from a combination of Baltic birch plywood and MDF; the front baffle has a distinctive fiddleback mahogany veneer, while the sides, back, and rear are veneered in maple and finished in a semitranslucent gloss-black lacquer. Driving the O/93s with a Unison Research Simply Italy amplifier, ST noted the DeVores' lively, immediate sound: a sweet, extended treble; punchy bass; and a deep, wide soundstage with excellent center fill. In his follow-up, AD praised the O/93 for the physicality of its sound—the sense of touch in robustly played piano trills, the feel of mallet against marimba, the tactile pluck of a double bass—and for its fine overall balance that allowed excellent timbral color from acoustic instruments yet also "gave nearly full weight" to kettledrums. He regards the O/93 as among the best choices for people who appreciate the impact, drama, and thrills of vintage loudspeakers yet whose rooms and budgets require a contemporary speaker of more modest price and size—considered as which, the DeVore is "far better stuff than most everyone else is making." With the O/93s driven by the Linear Tube Audio Z10e amplifier, HR concluded, "I've experienced countless audio components that measured well, but only a rare few that produced authentic tone, nine octaves of natural detail, and copious atmospherics. The LTA Z10e driving the DeVore Orangutan O/93s did all that." In a measurements follow-up, JA estimated the O/93's sensitivity as 90.1dB—slightly lower than the nominal 93dB, yet still, when combined with the speaker's 10 ohm impedance, indicative of a very flea-watt–friendly loudspeaker. (Vol.37 No.1, Vol.38 No.12, Vol.39 No.6, Vol.41 No.5, Vol.42 No.1, Vol.43 No.5 WWW)

DEVORE FIDELITY ORANGUTAN O/BABY: $5700/PAIR (STANDS NECESSARY)

This relatively large, heavy standmount combines a 0.75" horn-loaded textile-dome tweeter from Denmark's Vifa and a 7" paper-cone woofer from Norway's SEAS, both drive units made to DeVore's specifications. KM found that with the O/baby speakers, "the music flowing into my room was terrific: physical, live, enveloping, natural, with good scale. Dynamics ranged from house-mouse still to boisterous and brazen. The sweet spot was truly sweet." He described the treble as "exacting, revealing, supersilky," the midrange as "rich and see-through," and the bass as "tight and well defined," if less weighty than that of the larger Orangutan O/96. Overall, "these babies pack a mighty, two-fisted wallop." The DeVore O/baby's specified sensitivity is a high 90dB/W/m, which, with the speaker's relatively high average impedance, was confirmed by JA. However, he noted that the O/baby will probably work best with a tube amplifier's 4 ohm output transformer tap. Matching stands cost $995/pair. (Vol.46 No.12 WWW)

DRAGONFIRE MINI DRAGON DFA 2.1: $10,000 FOR THE SYSTEM ★

The DFA 2.1 system from Dragonfire Acoustics comprises the company's Mini Dragon Satellite planar-magnetic desktop speakers; MD-4 250 Wpc class-D amp, which contains a DSP module for correcting and controlling the speakers; and DFA SB-8P subwoofer, along with a version of the miniDSP SHD headphone amp/streamer (equipped with Dirac Live room-correction software), plus a suite of cables and a calibrated USB microphone. Although Dragonfire published individual prices for all of the above, they really must be used together—especially the speakers and the amp, which cannot perform optimally in isolation from each other. Although JVS found that "setup was not without its challenges" and noted, duly, that the Dragonfire system was designed for "intimate listening where its monitors are precisely aligned to ear height," he remarked that the system's "remarkably transparent, colorful, and detailed full-range sound is musical to the core." JA noted that the system "offers excellent measured performance," but confirmed the for-desktops-only dictum. Now available in an analog-amplifier version. (Vol.42 No.9 WWW)

DYNAUDIO FOCUS 10: $5500/PAIR (STANDS NECESSARY)

The Primary two-way, sealed-box, active standmount offers single-ended analog, Ethernet, Wi-Fi, and Toslink inputs, with connection to the second Client speaker either via wired S/PDIF or WISA-standard Wi-Fi. A Bluetooth remote control is supplied, but the Roon Ready speakers can also be controlled with Dynaudio's Connect and Control app. DSP is used not just for the crossover, placement optimization, and tone controls, but also to reduce the 5" woofer's low-frequency extension at high spls. JVS used Roon and Tidal Connect for his auditioning and commented that the Focus 10s sounded natural, balanced from top to bottom, and invitingly warm. "Colors, while not as saturated as on my many, many times more expensive reference rig," he wrote, "were nicely differentiated and sufficiently compelling to pull me in." He preferred the presentation with the wired connection between the two speakers, which operates up to a sample rate of 192kHz, noting that with the Wi-Fi connection, which downsamples hi-rez data to 96kHz, transparency was lessened, colors were less saturated, and instruments were surrounded by less air. The Focus 10 did well in JA's lab, though he noted that the speaker has a higher latency, almost 12ms, than other digital active designs he has tested. The Focus 10 includes Dirac room correction, but even without Dirac, "the Focus 10s are easy to set up and optimize, and they deliver all they promise," JVS concluded. JA investigated the Dynaudio speaker's incorporation of Dirac Live in a follow-up review. He found that it was necessary to perform the Dirac measurements at the same spl that will be used for the auditioning. Once that was done, he created four filters offering different degrees of correction and auditioned each with a variety of music. "Even without Dirac Live, the Dynaudio Focus 10 combines ease of setup and use, stereo imaging precision, and a natural-sounding midrange with surprising low-frequency extension, provided the spl is kept below 85dB or so," he concluded, "but Dirac Live takes its sound quality to another level." (Vol.46 Nos.2 & 11 WWW)

EJ JORDAN MARLOW: £1960/PAIR (STANDS NECESSARY)

This LS3/5a-sized minimonitor uses a single full-range drive unit based on the late Ted Jordan's work. "I had forgotten how much havoc an energy-absorbing, phase-twisting, signal-molesting loudspeaker crossover could wreak," wrote HR, adding "I was stunned by how direct, quiet, and transparent the Jordans sounded." He conjectured that "when we get rid of the tweeter, especially one that operates below 3kHz, we eliminate a layer of fuzzy, splashy, phasey blurring that we didn't know was there. Sans tweeter, the sound is more direct and accurate to the source." While the Marlow cannot deliver commodious deep bass or play loud, HR wrote that it satisfied his hunger to peer into recordings as directly and excitedly as possible, concluding that he "fell in love with its petite, truth-telling charms." JA was less impressed. Though the Marlow offered a good 87dB(B)/2.83V/m sensitivity and its overdamped reflex alignment would benefit from the low-frequency reinforcement from close wall placement, its frequency response was decidedly unflat, with a peaky upper midrange owing to the lack of baffle-step compensation that would have been provided by a crossover. "With music, the boosted upper mids may well have contributed to the added sense of recorded detail that HR reported hearing," JA wrote, adding "but whether the Marlow is perceived as having too much upper midrange or suppressed lower midrange and treble will depend on the recordings being played." JA concluded that the measured performance of the Marlow suggests that this will be a loudspeaker for "special tastes or special systems." (Vol.45 Nos.4 & 5 WWW)

FLEETWOOD SOUND COMPANY DEVILLE SQ: $18,600/PAIR

The Deville's "steam-punk-meets-modern" styling disguises a high-performance two-way design with a compression-driven, conical-horn–loaded polymer-diaphragm tweeter and an 8" paper-cone woofer with a phenolic grille. KM wrote that the Fleetwood DeVille SQ's "upper midrange and treble poured out music with microscopic detail, tactility, and complexity. ... [I]ts top end was meticulous yet never analytical. Micro- and macrodynamics were first rate and fast as hell." He added that the low end was tight and focused with no boom or muck and concluded that "Beef and brawn are not its calling cards, but rather lucidity, spatial beauty, clarity, dynamics, and precision." In the test lab, JA found that the Fleetwood speaker's sensitivity was a little lower than the specified 94dB/W/m, but still usefully high at 91.7dB. The flattest response in the midrange and mid-treble regions was 5° above the axis of the horn-loaded tweeter, which will be 46" from the floor with the speaker sitting on its dedicated stand. He also noted that the tonal balance will be too mellow unless the speakers are toed in to the listening position. Natural-finish "torrefied" stands add $1550/pair; black-painted, reclaimed hickory stands add $750/pair. Optional grilles cost $350 or $450/pair depending on type. (Vol.45 No.5 WWW)

FYNE AUDIO F500SP: $1899/PAIR (STANDS NECESSARY)

A standmount featuring Fyne Audio's IsoFlare coaxial driver

in which the titanium-dome tweeter is mounted behind the woofer's voice-coil, providing the former with a degree of horn loading. Woofer is reflex-loaded with a downward-firing port. JA's estimate of the Fyne's sensitivity was 3dB lower than the specified 90dB, but this speaker is relatively easy to drive. "Music sounded meaty, visceral, and full bodied and proved capable of spinning a deep, wide soundstage," KM wrote, adding that low frequencies were extended and free from bloat. Tweeter is balanced a couple of dB higher than the woofer, which KM found required careful system matching, but when everything was optimal, "the Fyne F500SPs played music with a big, wide, deep stage, satisfying punch and precision, and much humanity." Base price is for gloss black or white finish; walnut veneer adds $300/pair. The matching F6 stands cost $1895/pair. (Vol.45 No.2 WWW)

GOLDENEAR BRX: $1900/PAIR (STANDS NECESSARY) $$$ ★

The final loudspeaker to be introduced by GoldenEar while Sandy Gross was still with the company he cofounded, the immaculate-looking BRX (for Bookshelf Reference X) marries the flagship Triton Reference's HVFR (High-Velocity Folded Ribbon) tweeter and 6" polypropylene-cone upper-bass/midrange driver to a pair of 6.5" planar passive radiators. The optimal listening axis is just below the tweeter, so JA used 30" Sanus SF30 twin-pillar stands to get the best sound. The result is superb stereo imaging accuracy and uncolored, natural-sounding midrange and treble with the grilles, but a touch too much mid-treble energy without them. Excellent low-frequency extension, to 50Hz, for such a small speaker, JA found, with fleshed-out upper bass even with the BRXes used well away from the wall behind them. Measured sensitivity was 87.5dB(B)/2.83V/m compared with the specified 90dB. "While it benefits from being powered by high-quality amplification, its sound quality features an uncolored midrange, clean high frequencies, and enough mid- and upper-bass energy to satisfy, coupled with stable, accurate stereo imaging," he concluded. However, he warned that despite its impedance being specified as "compatible with 8 ohms," the BRX will perform best with substantial amplifier power. HR enthusiastically echoed JA's praise for the GoldenEar's sound, writing "My auditions suggest that the new GoldenEar BRXs might be the best thing to happen to affordable speakers since the debut of the KEF LS50. With the right amplifier, they achieved a level of overt lucidity that is extremely rare at this price." (Vol.43 Nos.9 & 12 WWW)

HARBETH P3ESR XD: $3290/PAIR (STANDS NECESSARY) ★

In its standard version, the two-way, sealed-cabinet P3ESR ($2195/pair) stands just 12" tall and partners a 0.75" tweeter with a 5" woofer, the latter using Harbeth's proprietary, patented Radial2 polymer for improved clarity and low-level resolution. Though restricted in loudness and bass extension, the P3ESR had a slightly warm overall balance characterized by smooth highs, an uncolored midrange, and stable and accurate stereo imaging. "The Harbeth P3ESR is the best iteration yet from any manufacturer of the BBC LS3/5A minimonitor concept," concluded JA. The littlest Harbeth also gets the strongest recommendation from JM. While its lack of low and midbass disqualified it for most rock and large-scale orchestral performances, felt BD, the Harbeth's incredible midrange clarity and detail made it an outstanding choice for small, intimate works. The 40th Anniversary Edition, which adds upgraded connectors, internal cable, and crossover capacitors, as well as an exclusive olivewood veneer and two commemorative badges, found favor with HR: Used on TonTräger P3 stands ($1485/pair) and compared to the standard P3ESRs, the 40th Anniversary Edition Harbeths showed him "greater separation of instruments, and a fleshier texture to [Birgit] Nilsson's voice." Herb regards the 40th Anniversary Edition P3ESR as "the best-built, most natural-sounding small speaker I have ever heard" and considers the prices of both versions "chickenfeed." (Vol.33 Nos.8 & 10, Vol.34 No.7, Vol.41 No.12 WWW)

HARBETH SUPER HL5PLUS XD: $7995/PAIR (STANDS NECESSARY)

The same size as the BBC-inspired Spendor BC1, the three-way, reflex-loaded Harbeth features the same combination of drive units as that 1970s-era speaker: a woofer, a tweeter, and a supertweeter. These are all thoroughly modern units, however. The in-house–made woofer features Harbeth's RADIAL2 polymeric composite-cone; the tweeter and supertweeter use aluminum domes and are sourced from SEAS. KM liked what he heard: "The Super HL5plus XD succeeded at being exceptionally refined, robust, and fun, in roughly equal parts. It was ultradetailed but never surgical. Its immaculate resolution never sounded less than natural, smooth, never processed." Imaging and soundstage were similarly profound, KM wrote, producing "an enveloping 3D soundfield, at least with recordings with that potential." He concluded that the Harbeth is tailor-made for well-recorded classical with its grandeur, spaciousness, and separation. He also enjoyed jazz and female vocals with this speaker. However, when he played anything that required "major boogie factor"—ZZ Top, Led Zeppelin, Mastodon—he found he wasn't satisfied. "They seemed to lack the drive needed to fill my small room with convincing rebel sounds." Writing from his test lab, JA confirmed the 86dB/2.83V/m, sensitivity and noted that while the Super HL5plus was a relatively easy load, tube amplifiers will work best with their 4 ohm output transformer taps. He found that the frequency response was impressively even, with small peaks balanced by small reductions in energy, though he commented that there was a very slight downward slope in the treble. (Vol.46 No.9 WWW)

HERETIC AD614: $7290/PAIR

The Canadian two-way AD614—the "AD" honors the late Art Dudley—uses an Italian 12" coaxial driver rated at 97dB/2.83V/m in a vented birch-plywood enclosure. Crossover is a series-wired, second-order, Linkwitz-Riley type set at 1.7kHz. With the 614s' tweeters pointed directly at his nose, HR commented that the speakers sounded more

transparent, deep-spaced, and sharply focused than they did when aimed straight ahead. "The AD614s displayed an oceans-wide, minutely drawn, evenly lit soundspace that felt natural and relaxed, not exaggerated or contrived," he found, even with the speakers sitting only inches from the wall. "These boxes can play LOUD!" he exclaimed, concluding that while he could always hear the paper in the Heretics' cones, and was never not aware of the location, mass, and volume of their thin-walled boxes, "those things were more of a comfort than a distraction." (Vol.46 No.4 WWW)

JANSZEN VALENTINA P8: $9250/PAIR

This complex floorstander uses a multi-element electrostatic diaphragm in a sealed subenclosure mounted between two 8" dynamic woofers, these also loaded with a sealed box. An auxiliary 1" ring-dome tweeter is mounted outboard on each speaker, firing sideways toward the nearest sidewall. Rear-panel controls allow the levels of the electrostatic driver and woofers to be individually adjusted—with these level controls, the tiltback of the speaker's baffle, and the side-mounted tweeter, JA found that optimizing the Valentina P8s' setup in his room was complicated. Fortunately, he noted, the extensive manual offered useful advice, and after experimenting with the speakers' positions, toe-in, and level controls, JA found that the high frequencies were naturally balanced, the midrange was uncolored and clear, the reasonably extended low frequencies were articulate, and the JansZen speakers presented a clear window into the recorded soundstage. The measured sensitivity varied somewhat with the exact measurement axis. JA found that the P8's voltage sensitivity was low, at 83–84dB/2.83V/m depending on the measurement axis, but noted that this speaker is a relatively easy load for the partnering amplifier. "The JansZen Valentina P8's measured performance indicates that, when optimally set up, it will give an even tonal balance," he concluded. (Vol.45 No.6 WWW)

JBL 4329P: $4500/PAIR (STANDS NECESSARY)

This hefty, powered, two-way, reflex-loaded standmount features class-D amplification, and Wi-Fi, Ethernet, USB, Bluetooth, and S/PDIF digital inputs as well as balanced and single-ended line-level analog inputs. A switch allows a 3dB low-frequency rolloff for when the speakers are placed against a wall. There is also a subwoofer output. The 4329P can be controlled with a local web-page—an app is promised—and it works with both Apple AirPlay 2 and Google Chromecast. TF described the sound as "subjectively full-range"—and commented that the speaker's voicing reminded him of "some other modern speakers, seemingly tipped up a bit though not, in this case, to an annoying extent." TF concluded that during the month it was a part of his life, the 4329P system provided many hours of enjoyable listening. "The 4329P has a retro look but sounds modern—classic big, bold, American JBL sound with better clarity than JBL speakers of yore," he wrote. JA's measurements indicated that the JBL speaker's farfield output was impressively even, as was the superbly well-controlled radiation pattern. "The frequency response, horizontal dispersion, and low-frequency alignment are textbook," he concluded. Optional JS-80 stands cost $400/pair. (Vol.46 No.10 WWW)

KLH MODEL FIVE: $2499.98/PAIR $$$

One of the first loudspeakers from the reborn KLH brand, the three-way Model Five echoes its vintage ancestor by having an acoustic-suspension woofer. A three-way switch allows the speaker's Mid-HF balance to be adjusted. With this switch set to its maximum, KM liked what he heard: "The M5's midrange was consistently meaty and lucid, but some recordings could excite a thin, slightly papery quality from the tweeters; it was recording dependent. Mostly, the speaker played with a detailed, sparkling upper/mid/treble chutzpah that favored and seemed to amplify texture and viscosity." KM was also impressed by the KLH's low frequencies: "Bass notes have never sounded tighter or more carved in black space here than they did through the Model Five," he wrote. KLH specifies the Model Five's free-field sensitivity as 87.5dB/2.83V/m, which was confirmed by JA's measurements. He found that the KLH's impedance lay between 4 and 8 ohms over most of the audioband but recommended this speaker be used with amplifiers that don't have problems driving 4 ohms. Measured farfield response was even, though JA noted that experimenting with toe-in will be useful in obtaining the optimal low-treble balance. KM concluded that for not a lot of money, the Model Five "was a forensic instrument when needed and an audiophile speaker capable of reproducing rich, true-to-the-source sounds when desired. ... The KLH M5s are intoxication kings, urging me to hear my most beloved vinyl via [their] big personality and well-scaled dimensionality." Matching stands included in price; Stonewash Linen grilles add $199/pair. (Vol.44 No.10 WWW)

KLH MODEL THREE: $1799.98/PAIR INCL. STANDS

While it resembles the classic KLH Model Five speaker from 1968, like the current-day Model Five, the Model Three is a thoroughly modern design. It combines the Five's 1" aluminum-dome tweeter with a sealed-box–loaded 8" pulp-paper–cone woofer. A three-position "Acoustic Balance Control" attenuates the output above 400Hz by 0, 1.5dB, or 3dB to deal with difficult room acoustics. A pair of black, powder-coated, 14-gauge slant riser stands are included in the price; these tilt the speakers back to place the listener's ears on the tweeter axis. RS found that the silvery grille rattled with high-level bass notes. He removed the grilles for his auditioning, noting that bass was then one of the M3's strong suits. The soundstage was wider than he expected, and he also admired the KLH's transparency. "*Understated* transparency; it didn't call attention to itself. Detail wasn't hyped," he wrote, adding that the M3 "preserved the richness and warmth *inherent* in the music." He summed up his time with the KLH speakers by writing "The M3 delivered both fun *and* refined audiophile sound, at a price I consider almost laughably low. It delivers music in a way that made this long-time audiophile shake his head and smile." Measurer JA confirmed the M3's specified sensitivity of 85dB/2.83V/m and noted both that the speaker will work well with amplifiers that don't have problems driving low impedances and that tube amplifiers will best be used from their 4 ohm output transformer taps. (Vol.46 No.1 WWW)

KLIPSCH RP-600M II: $649/PAIR (STANDS NECESSARY) $$$

The original version of Klipsch's two-way standmounted RP-600M used a 6.5" spun-copper-plus-ceramic-cone woofer to handle frequencies below 1.8kHz and a 1" titanium-diaphragm tweeter loaded with a Tractrix horn to reproduce everything else. The new version is an inch deeper than the old and has a larger conical-tractrix high-frequency horn and a redesigned woofer, which sports Faraday rings and a larger voice-coil. While HR preferred the old Klipsches with their speaker grilles attached, he found the new Klipsches sounded best with them removed. "The combined effect of the revised horn and bass driver is to add weight, presence, and low-signal delicacy to the presentation," he wrote. While the original speakers did an extraordinary job of emphasizing the beat and "diagramming the melody" of classical music, the new Klipsch "is simply more refined-sounding." HR commented on the Klipsch's "ability to play really loud" with even an 8W amplifier, though reporting from his lab, JA estimated the original RP-600M's sensitivity to be 89.6dB—"much lower" than Klipsch's spec. Even so, he praised the earlier speaker's "impressive measured performance, especially when its affordable price is taken into account." (Vol.42 No.4, original version; Vol.46 No.8 WWW)

KLIPSCH THE NINES: $1499/PAIR (STANDS NECESSARY) $$$

This relatively small, two-way active standmount loudspeaker system includes class-D amplification, digital and analog inputs—the latter appear to be digitized at 96kHz—and on-board DSP. A horn-loaded, titanium-dome 1" tweeter is accompanied by a reflex-loaded 8" fiber-composite–cone woofer. In addition to HDMI-ARC with CEC, Bluetooth 5.0, TosLink S/PDIF, and USB2 Type B digital inputs, there are two single-ended analog inputs: one on RCA jacks for phono and the other on a 3.5mm stereo minijack for line-level signal. There is also a line-level subwoofer output. Playing digital files, TF found that the Nines excelled at the transmission of low-level details and as long as he kept the level moderate, the bass sounded clean and went deep. TF played LPs with an Ortofon 2M Blue cartridge and described the Nines' phono preamp as "easygoing." Like the 2M Blue, "it doesn't pull every last detail out of the groove, but it pulls out enough to enjoy the music." TF concluded that the Nines "grab enough of the music, and push it out in the room, to get the party started and keep it going all night." In JA's test lab, The Nines' woofer alignment appeared to be somewhat overdamped, the frequency balance was impressively even overall, though with a very slight rise in output above 7kHz, and the lateral dispersion was superbly well-controlled. Optional KS-24 stands cost $349/pair. (Vol.47 No.2 WWW)

MAYFLY AUDIO SYSTEMS MF-201A: $3499/PAIR (STANDS NECESSARY)

This unique, almost circular-profile standmount uses internal skyline diffusers to damp the woofer's backwave in the midrange, but not at lower frequencies, to get more bass output from the reflex-loaded alignment. The single driver is a coaxial unit from SEAS. RvB found that the MayFlys have tight bass that pumps out 40Hz with authority; he felt that the MF-201A sounded "honeylike, and it's hard to dislike a skosh of honey." Overall, he felt that there was a "dignified, reserved quality" to the speakers' presentation and commented on their precision and delicacy. His conclusion? "Though slow to quicken the pulse, these speakers are not shy or retiring, but you may have to take the time to find the right placement." JA found that the voltage sensitivity was 5dB lower than the specified 88dB and warned that despite its overall high impedance, the MF-201A will work best with amplifiers that have no problem driving 4 ohms. Matching 14" stands cost $899/pair, though RvB felt that the MF-201As sounded better-balanced on taller, conventional stands. (Vol.45 No.3 WWW)

MISSION 770: $5000/PAIR INCL. STANDS

Looking almost identical to the classic 770 from 1979, the 2022 770 is a completely new standmounted, two-way, reflex-loaded design from IAG's Peter Comeau. Drive units are a 28mm soft-dome tweeter and a mineral-loaded–polypropylene-cone woofer. JA found the 770s' low frequencies extended and articulate, with low distortion. He was also impressed by the speaker's midrange, which he described as "warm, detailed, and musically involving," especially with vocal recordings. He summed up his time with the 770 by saying that its "sonic character was in some ways more than the sum of its parts." The Mission's respectable measured behavior correlated well with its sound quality, though while the specified sensitivity is 88dB/2.83V/m, JA's estimate was 2.5dB lower. Ameliorating that discrepancy, the Mission is a relatively easy load. (Vol.45 No.11 WWW)

MOFI ELECTRONICS SOURCEPOINT 8: $2999/PAIR $$$

With similar looks to the larger SourcePoint 10, the SourcePoint 8 substitutes an 8" coaxial driver for the '10's 10" unit, but this driver's active area is almost as large. KR found that the clearest and most stable center imaging was achieved with the SourcePoint 8s toed in about halfway between straight ahead and directly aimed at the listening position. He also found that the SourcePoint 8 demonstrated remarkable bass for a small box with a bass driver of modest size. "They did not reproduce much output below 50Hz," he wrote, "but above that frequency they proved capable of tight, powerful bass." KR concluded that this is a balanced, wide-range speaker, enjoyable at all practical volume levels. The SourcePoint 8 demonstrates how satisfying a small, relatively affordable loudspeaker can be, he wrote, adding that "they generate a fairly wide and deep soundstage that is notably transparent and detailed." JA noted that the MoFi SourcePoint 8 offers excellent measured performance, is an easy amplifier, and he confirmed the specified 87dB/2,83V/m sensitivity. (Vol.46 No.9 WWW)

MOFI ELECTRONICS SOURCEPOINT 10: $3699/PAIR (STANDS NECESSARY)

This hefty, reflex-loaded, two-way standmount is from the CAD app of veteran speaker engineer Andrew Jones, who, over the years, has designed well-regarded speakers from KEF, Infinity, Pioneer, TAD, and ELAC. Unusually, it uses a coaxial driver that mounts a 1.25" soft-dome tweeter at the center of a 10" woofer's paper-pulp cone. The woofer cone

acts as a waveguide, and with its corrugated surround not disturbing the tweeter's wavefront, this results in what JA confirmed as well-controlled dispersion. Low frequencies extend to 42Hz, –6dB, and the farfield response was respectably flat in the midrange and low treble, with a slight rise in the top two audio octaves that JA heard, though he noted that the high frequencies were clean and that the speaker otherwise sounded smoothly balanced and uncolored. He found the SourcePoint 10s' stereo imaging precise and stable, and commented favorably on the speaker's high dynamic range capability. JA's measurements confirmed the high specified sensitivity of 91dB/2.83V/m and indicated that the MoFi speaker won't be a difficult load for the partnering amplifier. Overall, he concluded that with its clean, superbly well-defined low frequencies, the natural-sounding midrange, the high sensitivity, the easy-to-drive impedance, the ability to play loudly without strain, and the affordable price, the SourcePoint 10 gets a thumbs-up. In his follow-up review, KM wrote that he heard sweet, extended treble and natural, clear, and stomach-churning sub bass. "The SourcePoint 10's versatility—its ability to delight playing all styles of music with a wide variety of amplifiers—make it, in my opinion, a contender for Loudspeaker of the Year," he concluded. (Vol.46 Nos.2 & 6 WWW)

MOON BY SIMAUDIO VOICE 22: $3200/PAIR (STANDS NECESSARY)

The smallish, designed in Canada, made-in-Indonesia Voice 22 marries a waveguide-loaded, 29mm textile-dome tweeter with a reflex-loaded, long-throw, 6.1" woofer that has a cone made from mineral-filled polypropylene. Unusually, RS found that the speakers sounded best without any toe-in to the listening position: "the sound was clearer and more incisive that way, yet also bloomier and more open-air breathy." While the 22's treble couldn't reach the same airy heights of his twice-the-price reference speakers, he noted that the Voices "reproduced an introspective, well-lit environment bathed in texture and space" and were "adept at exposing reverb." RS concluded that the Moon Voice 22's most conspicuous sonic attribute "was its well-sorted, seamless midrange." The speaker incorporates a removable "hover" base, a tapered isolation platform with a rubberlike material base, which is magnetically affixed to the speaker. JA found that this did reduce the level of the enclosure's vibrational modes. JA also estimated the Voice 22's sensitivity as an inconsequential 1dB lower than the specified 89dB/2.83V/m. Frequency balance was a little forward in the upper-midrange, but the cumulative spectral-decay plot "is superbly clean," he remarked. (Vol.46 No.5 WWW)

POLK AUDIO LEGEND L100: $999/PAIR (STANDS NECESSARY) $$$

After this pair of well-finished, two-way, rear-ported stand-mounts had been broken in, KM found they "imaged beautifully, were dynamic as the dickens, recreated a satisfactory soundstage, and provided very respectable bass weight and extension—indeed, exceptional for their size. . . . The L100s often fooled me into believing they were replicating bass notes lower than those small mid/bass drivers should allow." KM was also impressed by the Polk's midrange, describing it as "reliably distinct and rich-sounding," though he also found the upper midrange–treble balance somewhat forward. Although the L100 has a specified sensitivity of 85.5dB/W/m, JA measured a slightly higher figure of 87dB(B)/2.83V/m. KM found the Polk to sound better with some amplifiers than others, which JA ascribed to the demanding impedance. The L100 "will work best with amplifiers that are comfortable driving loads below 4 ohms," he concluded. He also warned that the L100s should be used with stands that are sufficiently high so that the listener can't see the tops of the cabinets. (Vol.43 No.10 WWW)

Q ACOUSTICS 5040: $1499/PAIR $$$

This slim, elegant-looking tower features a vertical D'Appolito drive-unit array comprising a 0.9" fabric-dome tweeter positioned between the two 5" plastic-cone woofers, the latter reflex-loaded with port on the rear panel. The low-frequency alignment is optimized for placement close to the wall behind the speaker, which wasn't possible in JA's listening room. Nevertheless, he found that the low frequencies had sufficient bass weight, though he noted that at the other end of the spectrum, cymbals had a little too much HF "swish." This could be alleviated by reduced the toe-in angle, though this slightly blurred the superbly stable, well-defined stereo imaging. The 5040's midrange was impressively transparent. "Even without taking its affordable price into consideration," JA concluded that the Q Acoustics 5040 "combines sufficient low-frequency extension and articulation with excellent clarity and imaging and low coloration. As the 5040 won't play deafeningly loudly, it will work best in smallish to medium-sized rooms." JA confirmed the high specified voltage sensitivity of 91.5dB/2.83V/m but warned that as this loudspeaker is a difficult load, "amplifier choice will be critical in getting the best from this speaker." (Vol.47 No.1 WWW)

Q ACOUSTICS CONCEPT 50: $2999/PAIR

This affordable, elegant-looking two-way tower combines a 0.9" fabric-dome tweeter positioned between two 5" plastic-cone woofers and incorporates a custom suspension system in its base. The reflex woofer alignment requires placement close to the wall behind the speaker, but even with the Concept 50s farther out in the room, JA noted relatively extended low frequencies, with low distortion and excellent upper-bass articulation. Stereo imaging was precise, with good soundstage depth, and while the mid-treble region sounded a little softened compared with the upper midrange, the Concept 50's overall presentation was uncolored and clean. JA's estimate of the speaker's sensitivity was somewhat lower than the specified 90.5dB/W/m, at 88.1dB(B)/2.83V/m, but the Q Acoustics is relatively easy to drive. It also offered excellent measured performance. (Vol.45 No.8 WWW)

SONUS FABER LUMINA III: $2399/PAIR

This elegant but affordable three-way tower stands 38" tall on its spikes. (The spikes provide clearance for the reflex port, which fires downward from the speaker's base.) Two

Sound by Singer Has Rarely Had a Sale,
And Never One this BIG!

For a limited time, Sound by Singer is offering substantial savings on some of the most respected names in audio, including Absolare, CH Precision, Luxman, Harbeth, Einstein, Stenheim, VAC, Bryston, and many more!

Visit **soundbysingersale.com** or scan the QR code for the complete selection.
But hurry, because a Sound by Singer sale is a once in a lifetime opportunity.

242 West 27th Street, New York, NY 10001 | 212.924.8600 | 917.414.8760

SOUND by SINGER

5" pulp-cone woofers are accompanied by a 5" pulp-cone midrange unit and Sonus Faber's Damped Apex Dome tweeter. Specified sensitivity is 89dB/2.83V/m—JA's estimate was commendably higher, at 91dB(B)/2.83V/m. Bass alignment is a little overdamped, meaning that the Lumina IIIs will sound at their best when placed relatively close to the wall behind them without compromising low-frequency definition. JA didn't recommend this speaker for use with source components that are themselves too forward in the treble, even with the toe-in adjusted to give the most-neutral treble, but concluded that in the right system and room, "this elegant-looking tower will excel at communicating the music's message." (Vol.44 No.4 WWW)

TANNOY STIRLING PRESTIGE GOLD REFERENCE: $6990/PAIR

This classic-looking floorstander uses Tannoy's traditional Dual Concentric driver with its Tulip Waveguide loading the aluminum-magnesium–alloy tweeter diaphragm. The paper-cone woofer features an impregnated-fabric surround and is reflex-loaded with vertical slots at the sides of the recessed front baffle. A three-position "Energy Control" allows the treble balance to be optimized. KM noted that this speaker requires careful setup and, unusually, he found that the Stirling sounded better with the bulky grille attached—"its tone fuller, its treble more open and revealing, its low end weightier and better defined." He noted that the high frequencies were clean and extended, the dynamics were marvelous, and the speakers presented "a full, believable, densely populated soundstage. "At its core a horn speaker," he wrote, "the Stirling is fast, communicative, coherent, and demonstrative. It was transparent to equipment and music sources while retaining its trademark sound." JA found that the Tannoy's sensitivity was almost 3dB higher than the already high specification of 91dB/2.83V/m and commented that while the Stirling will work best with amplifiers that don't have problems driving low impedances, the speaker's high sensitivity will reduce its need for current. He concluded that the Stirling's measured performance was dominated by the effects of the tweeter being coaxially mounted behind the woofer cone: "Experimentation with vertical listening axis and/or toe-in, in combination with the high-frequency controls, will be necessary to optimize its in-room tonal balance." (Vol.45 No.10 WWW)

TRIANGLE ANTAL 40TH ANNIVERSARY EDITION: $4700/PAIR $$$

As its name suggests, this slim, three-way tower celebrates the French manufacturer's 40th anniversary. A horn-loaded tweeter with a rigid anodized-magnesium dome is allied with a midrange unit that uses a paper cone that Triangle says is the most optimized they've ever developed, and two reflex-loaded, wood-pulp, flax, and carbon fiber–membrane woofers. RS found that the Antals offered a big sweet spot and that the speaker's midrange had "a projector-like clarity against which images and musical lines appeared in physical, protuberant relief." Bass drum hits were clean yet bold, he noted, with good impact and sustain, but without overhang. "Assuming the rest of your system is up to snuff," RS concluded, "the Antal 40s will let you hear an inordinate amount of what's on the record. I found it hard to imagine, as I listened, that I was missing anything." JA found that the Antal's sensitivity was 3dB lower than the specified 92dB/W/m and noted that the speaker was a relatively demanding load for the partnering amplifier. He did note that the Triangle speaker's frequency balance was flat and even, its dispersion in the vertical and horizontal planes well-managed, and the low frequencies extended if overdamped, favoring articulation over ultimate bass weight. For her follow-up review, JMu drove the Antals with the HiFi Rose RA180 integrated amplifier. She found that they were capable of endowing images "with sufficient presence and enough highly resolved detail to be immersive in their own way ... Voices sound as though they came from the bodies of real, flesh-and-blood singers." She concluded that the Antal's best features were "presence and purity of tone." (Vol.45 No.10, Vol.46 No.6 WWW)

C (RESTRICTED LF)

ALTA AUDIO ALYSSA: $5000/PAIR (STANDS INCLUDED) IN HIGH-GLOSS BLACK

This large, two-way standmount features a high-quality ribbon tweeter and a 6" Morel woofer loaded with a folded transmission line that terminates in a port on the speaker's rear. This combination, called "XTL Loading" by Alta, "tunes the speaker from resonance on up as it would in a properly tuned ported speaker, and the transmission line tunes the speaker from system resonance down. This extends the response significantly." JA's measurements showed that the Alyssa offered extended low frequencies for a speaker its size but also revealed that the internal transmission line suffered from high-Q resonances. HR noted that in his relatively small room, the Alyssas exhibited "a vexing lack of focus in the lower midrange and upper bass," which was especially audible with male vocals. JA conjectured that this coloration was due to the line resonances. (However, subsequent auditioning by JCA in his room, which is larger than HR's, indicated that those resonances didn't seem to affect sound quality.) Higher in frequency, the Alyssas delighted HR with their innate transparency and their ability to project an enormous soundstage with lifelike musicians arrayed in front of him. When the samples were delivered to JCA, the ports were stuffed with wool, although they had been open for HR's auditioning and JA's measurements. "I found the low-bass reach and the quantity and quality of the low frequencies superior without any stuffing," JCA wrote. "Even a quarter as much [stuffing] as they were delivered with reduced their bass impact considerably." Price is for gloss black finish; gloss beech or rosewood finish adds $1000/pair. (Vol.43 Nos.11 & 12 WWW)

MAGNEPAN .7: $1995/PAIR $$$ ★

Magnepan's .7 planar-magnetic or "quasi-ribbon" loudspeaker is a two-way panel design that measures just over 54" high and 15" wide. The manufacturer's specs include a 4-ohm nominal impedance, sensitivity of 86dB, and bass extension down to 45Hz. Used on their own, especially when driven by Rogue Audio's 100Wpc Sphinx integrated amplifier ($1295), the .7s delighted HR with their "microdetail, transient attack, transparency, and soundstaging," but could also sound "a little bass shy." But when augmented with a pair of Magnepan's DWM bass panels ($795 each), the combination of .7 speakers and Sphinx amp delivered "disarmingly big, robust, vivid, and extremely tactile" sound with plentiful, "authentically toned" bass. "These Maggies did slam," HR declared, adding that he'd never enjoyed *Led Zeppelin II* more than through this system. Class B, felt HR; Class C decided JA, following his auditioning. Part of HR's reference "kit." (Vol.38 No.8 WWW)

SVS PRIME WIRELESS PRO: $899/PAIR (STANDS NECESSARY)

This two-way, active standmount offers an 1/8" stereo analog input, RCA and TosLink S/PDIF, HDMI ARC and eARC, and Ethernet digital inputs, as well as AirPlay 2 and Chromecast Wi-Fi connectivity using the DTS Play-Fi app. There is also a single subwoofer output. RvB felt that Play-Fi still needed improvement, so he streamed audio with Tidal Connect or Roon. Although the Prime Pro's low-frequency extension is specified as –3dB at 42Hz, RvB found that the small speakers offered sufficient bass weight. "Even without a sub or two," he wrote, "they played loudly without breaking up or sounding ragged." Imaging lacked pinpoint precision, however, and RvB was bothered by the lively enclosure. (Measurer JA noted a strong cabinet resonance in the midrange with a frequency close to that of the musical note Middle C and another strong resonant peak just below 600Hz in the port's output.) Nevertheless, RvB was impressed by the Prime Pro. Compared with the all-in-one Vanatoo Transparent One Encores, he found that the SVS speakers played louder, partied harder, slammed deeper, and looked nicer, as well as offering a "small smorgasbord" of convenient features. "If your budget is somewhere south of $1000, and you're looking for versatile powered speakers capable of unabashed performance, I don't think you can go wrong with the SVS Prime Pros," he concluded. (Vol.46 No.1 WWW)

D

AUDIOENGINE A2+: $269/PAIR $$$ (STANDS OPTIONAL) ★

At the end of 2013, Audioengine replaced the A2 ($199/pair) with the A2+, the only apparent differences being that the latter costs $50/pair more and, per JA, "adds to the left, master speaker a USB 1.1 input for digital audio and a pair of output jacks, used to feed an unfiltered, unequalized signal to the subwoofer(s)." JA compared the new speaker with its predecessor, confirmed that they sounded "identical," and added, "I was impressed by how well these tiny speakers managed to fill my listening room with sound." His new measurements noted that "the A2+'s farfield response . . . is identical to the A2's." He concluded, "A heck of a speaker at a heck of a price!" (Vol.37 No.9, Vol.38 No.4 WWW)

DELETIONS

Focal Aria K2, Fyne Audio F301, Revel Ultima2 Salon2 discontinued. DeVore Fidelity Orangutan O/96. Harbeth M30.2XD Manger s1. ProAc Response D2R. Piega Premium Wireless 701, not reviewed in a long time,

MUSIC SURROUND-SOUND COMPONENTS

A+

MERGING+HAPI MKII: $8411 WITH 2 DA8P D/A CARDS

See Digital Processors. (Vol.47 No.1 WWW)

STORMAUDIO ISP EVO IMMERSIVE SOUND PREAMP/PROCESSOR: $17,999–$21,999 DEPENDING ON CHANNEL COUNT AND DIGITAL FORMAT

See Digital Processors. (Vol.47 No.3 WWW)

A

ARVUS H2-4D MULTICHANNEL DOLBY ATMOS® DIGITAL PROCESSOR: $4990

The H2-4D combines HDMI and word clock inputs with 16-channel digital (AES3), balanced analog, and LAN outputs. It decodes and renders all extant varieties of Dolby (including Atmos), DTS (including DTS-X), and stereo and multichannel PCM (up to 24/192). Setup and control is via a local webpage, accessible via the user's network. After wrestling with setting up the channels, KR found with the Arvus's digital outputs that while Apple Music's Atmos is lossy and limited to a 48kHz sample rate, he found it a credible alternative to high-rez stereo, "swapping the latter's clarity and immediacy for a huge enhancement in the acoustic space." In the test lab, JA found that while the Arvus's digital outputs preserved the resolution and sample rate of hi-rez files, the analog outputs downsampled the data to 48kHz, with not much better than 16 bits of resolution. He felt that this rules out the H2-4D for use in a system where the owner wants to play back hi-rez music files as well as movies, with just one processor. Nevertheless, KR concluded that the Arvus H2-4D "is the single piece of audio hardware that can deliver Atmos into a component audio system." (Vol.46 No.5 WWW)

EXASOUND S88 MARK II: $7599

KR was impressed by this network-connected 8-channel D/A processor, writing that "the s88 sounded just right from the first notes, and that impression endured as I immersed myself in a wide range of music over several weeks. ... [I]n fact, it exceeds the performance of any DAC that I have used. I would describe its sound as transparent rather than detailed, dynamically responsive rather than lively, and honest in how it presents voices." On the test bench, the s88 offered a resolution of 21 bits, which is among the highest the magazine has found. The default reconstruction filter is a minimum-phase type and harmonic distortion, intermodulation distortion, and noise levels were all extremely low. KR concluded: "For some who are already committed to multichannel, the s88, with its superb DAC, convenient streaming and that oh-so-welcome volume control, may be the realization of their dreams. It is of mine." KR has since obtained the Mark II upgrade, with no discernible change in sonics. (Vol.44 No.4 WWW)

NAD M28: $5499

A seven-channel power amplifier that shares the same NAD Purifi-Eigentakt class-D output modules as the two-channel

C 298—see "Two-Channel Power Amplifiers"—and offers 200Wpc. KR was impressed by the M28, commenting that, in comparison with his previous reference multichannel amplifier, the Bryston 9B-ST THX, with the M28, "the treble seemed more delicately detailed while the upper low frequencies were a bit better defined. In multichannel, the M28 created a somewhat greater sense of envelopment with both 5.1 and Atmos content." (Vol.44 No.6 WWW)

OKTO DAC8 STEREO: €1289 (€1408 WITH STREAMING OPTIONS) $$$

An 8-channel DAC with USB input and output, 8 channels of AES/EBU input, 8 channels of balanced (XLR) analog output, a headphone output, and a choice of seven reconstruction filters, the made-in-Prague dac8 Pro so impressed KR that he bought the review sample. JA's measurements indicated that, with just over 20 bits of effective resolution and vanishingly low linearity error and distortion, no compromises had been made to pack eight D/A channels into the Pro's slim chassis. (Vol.43 No.12, Vol.44 No.2 WWW)

B

PRIMARE A35.8: $5500

See "Power Amplifiers." (Vol.45 No.11 WWW)

TOPPING DM7: $599.99 $$$

See "Digital Processors." (Vol.46 No.1 WWW)

DELETIONS

Essence Evolve II-4K HDMI v2.0 Multi-Channel DAC, Exasound Sigma Streamer, Merging Technologies MERGING+ANUBIS Monitor Controller Premium, Minidsp U-DIO8, Parasound A 52+ Halo, Trinnov Altitude32-816, not reviewed in a long time.

HEADPHONES & HEADPHONE ACCESSORIES

A+

AMPSANDSOUND BIGGER BEN: $5600

See "Integrated Amplifiers."

AUDEZE LCD-5: $22,950 WITH HEADPHONE AMP

The open-back LCD-5 is the successor to Audeze's well-regarded LCD-4 and, like its predecessor, uses planar-magnetic drive units, which feature proprietary, single-sided Fluxor neodymium N50 magnet arrays and a voice-coil concept called Parallel Uniforce. The idea is to vary the width of the conductor to match, or counter, variations in the magnetic flux to achieve uniform force across the membrane. The 90mm diaphragm is just 0.5 microns thick. JMu wrote that whatever source/amplifier setup she used, aspects of the LCD-5's signature sound seemed consistent: air, spaciousness, and openness combined with copious fine detail. "Live recordings sounded live; well-made studio recordings sounded alive, with sufficient energy and detail to seem real," she commented. (Vol.46 No.12 WWW)

DAN CLARK AUDIO STEALTH: $3999.99

The Stealth weighs 415gm and presents a low (23 ohm) impedance and a low (86–87dB/mW) sensitivity. HR was impressed by these closed-back, planar-magnetic headphones, which feature a patent-pending Acoustic Metamaterial Tuning System (AMTS)—an intricately formed, waferlike partition situated between the driver diaphragm—and the deeper-than-average ear cavity. He wrote that the Stealth's sound was "clear, finely detailed, and extremely well-balanced" though he also noted that it was also "somewhat distant," lacking some high-frequency directness compared with the HiFiMan Susvara open-back planar-magnetics. However, he found that the Stealth's upper bass and lower midrange were tauter, fuller, and more vividly portrayed than the Susvara's, a balance that worked well with female vocals. He concluded that the Stealth's most prominent virtues were its comfortable fit, its extraordinary build quality, its elegant way with detail, and its marvelously balanced, low-fatigue presentation. (Vol.45 No.7 WWW)

DCS BARTÓK APEX: $22,950 WITH HEADPHONE AMP

See "Digital Processors."

DCS LINA: $9750

This British, solid state, class-AB headphone amplifier is specified as outputting 2W into 30 ohms and 0.48W into 300 ohms with balanced 'phones, or 1.6W into 30 ohms and 0.2W into 300 ohms with unbalanced. There are three pairs of stereo analog inputs: one unbalanced; one balanced and buffered (high-impedance); and one "unbuffered" balanced for use with low-impedance source components. There are three headphone outputs: two 3-pin XLR—one each for right and left channels—one 4-pin XLR; and one $\frac{1}{4}$" jack. With HiFiMan's HE R10P, HR found the sound was "sharp, lucid, and emotionally affecting." With JPS Labs' Abyss AB-1266, he noted that the presentation was a touch dry compared to the tubed Feliks Envy and LTA Z10e amplifiers "but well-formed, brisk, and super-transparent, with assertive beat-keeping and state-of-the-art vocal intelligibility." Compared with the Feliks Envy, the Lina's overt transparency made the Envy seem hazy. Overall, "the Lina presented performers' images with a sculpted mass that contrasted with the Envy's gentler, more holographic presentation." (Vol.47 No.3 WWW)

FELIKS ENVY: $7995; PERFORMANCE EDITION COSTS $8795

This moderate-sized, single-ended headphone amp from Poland uses Psvane CV-181 (6SN7) twin-triode driver tubes and either Electro-Harmonix Gold 300B output tubes (standard version) or TJ Full Music 300B output tubes (Performance Edition). Specified output power is 8Wpc. There are three analog inputs, one balanced using transformers and two unbalanced (RCA). In addition to balanced and single-ended preamp-level outputs, there are two headphone jacks, one of them balanced. The gain can be set to three different levels, and HR found that at the Envy's highest gain setting with the TJ Full Music 300Bs, "it made the famously

Delicacy - Beauty - Believability

From the makers of the award-winning ***Reference DAC****, we bring the* ***Premier DAC*** *& the* ***Discrete DAC***

Two ground breaking DAC models

The **Premier DAC** and the **Discrete DAC** have set the benchmark for newly invented technologies, producing an unrivaled musical experience. They feature a significant portion of the design and components developed in our extraordinary flagship **Select II DAC**.

MSB's discrete ladder / clock digital engine uses aerospace precision performance, outpacing current audio industry standards. MSB DACs are the digital source that is ready for any audio formats and input connections that exist today and into the future.

Roon & MQA Renderer

Our Network Renderer, available as a user-upgradeable module, adds ultimate convenience for 32bit / 768kHz playback with MQA decoding and a Roon endpoint. Your DAC investment is safe for years to come thanks to MSB's modular and upgradeable designs.

MSB has achieved multiple milestones in digital playback with the introduction of dual Femtosecond clocks and custom in-house digital filters. Ultra hi-resolution and vanishing noise floors result in delicacy, beauty, and believability that is a sonic revelation.

MSB TECHNOLOGY

Contact Vince Galbo to audition MSB products at a dealer near you

(716) 688-3527 | vince@msbtechnology.com

www.msbtechnology.com **Made in California, U.S.A.**

hard-to-drive HiFiMan Susvaras light up and sing, with great purity and feeling." With ZMF's sensitive Verité closed-back headphones, HR used the Envy's middle gain setting and noted that "beauty and boogie combined forces to make focused listening easy." He also used the Electro-Harmonix 300Bs and concluded that some users might prefer the E-H's "earthbound realism over the slightly fuller, marginally more fantastic-sounding Full Music 300Bs." Overall, with every headphones he tried, the Envy "performed as though it had been engineered to present recordings in the most vivid manner possible, be 100% musically satisfying, and be the last headphone amplifier any of us might need to own." (Vol.47 No.2 WWW)

FOCAL UTOPIA: $5000 ★

The fully open-backed, circumaural Focal Utopias are designed around proprietary beryllium-dome full-range drivers that, uniquely, have no voice coil formers: each coil is fastened directly to its dome, in a crease near its surround. The yokes are made of carbon fiber, and the earcups and headband are covered with lambskin. HR described the Utopias as capable of producing "a gut-level realism that is rare in high-end audio," adding that the Focals are "lightning-fast, extremely open, and profoundly uncolored." In May 2023, HR compared the original Utopia headphones with the revised 2022 version. The new version offers different cosmetics with less silver trim, more open-looking "honeycomb" inner and outer grilles, and a new lighter-weight, more stylish yoke made from "forged recycled carbon." The new inner grilles are M-shaped, conforming to the shape of the M-shaped driver, but the most important change is to the Utopia's voice coils, which are now made of 30% copper "to improve reliability" and 70% aluminum "to reduce weight." Compared to its predecessor, HR noted, the 2022 Utopia "exhibits a more complete transparency, a quicker, higher bounce, and a more assured way with momentum." (Vol.39 No.10, Vol.41 No.6, Vol.46 No.5 WWW)

HIFIMAN HE-R10P: $5499

The HE-R10P is a wooden closed-back headset with "Supernano" planar-magnetic diaphragms. "When I first tried the HE-R10P," HR wrote, "my brain knew instantly that this headphone was excavating something more, some subtle type of extra information I usually don't experience with headphones." This extra information gave him a feeling of harmonic completeness, and the R10P produced "a crisp, Kodacolored soundscape." The HE-R10P's high-rez, full-color detail reminded him of HiFiMan's $6k Susvara open-backs: "It felt totally grainless; with every compositional element, every individual instrument, all vocal tones, as well as all the air in the room assembled into something that felt perfect in scale and natural order. The more I listened, the more frequently the words 'flawlessly balanced' passed through my mind." Overall, the HE-R10P created the most coherent, tangible, of-one-piece spatial perspective HR had experienced with headphones, whether closed- or open-backed. (Vol.46 No.8 WWW)

HIFIMAN SUSVARA: $6000 ★

The HiFiMan Susvaras are over-the-ear headphones with planar-magnetic drivers, built around gold-coated Nanometer Grade diaphragms—their thinnest ever, the company claims. The drivers also use HiFiMan's Stealth Magnet grids, the individual magnetic strips of which have rounded edges to reduce interference with sound output. The Susvaras weigh 15.9oz and offer an impedance of 60 ohms and a low sensitivity of only 83dB. HR later wrote that he thinks the Susvara is a contender for the world's best headphones. However, when he auditioned the Susvaras with the LTA Z10e amplifier, he found that, with the combination of low impedance and low sensitivity, the Susvara needed more power than the amplifier could deliver. Subsequently though, that amplifier was updated to provide its full available power—10Wpc—to headphones. (Vol.40 No.12, Vol.43 No.5, Vol.45 No.7 WWW)

JPS LABS ABYSS AB-1266 PHI TC: $5995–$8995 ★

For those who regard the JPS Abyss AB-1266 Phi headphones as prohibitively expensive, HR offers perspective, suggesting that they, like such "notorious legacy products" as the Wilson Audio WAMM loudspeaker of 1983 and the Audio Note Ongaku amplifier of 1993, "exist in categories of price and performance all their own." The Abyss 'phones are built into black-anodized aluminum frames and use single-magnet planar-magnetic drivers separated from the wearer by rotatable lambskin earpads held in place with magnets. Specs include a sensitivity of 88dB and an impedance of 42 ohms. After listening to a Schoenberg piece through the Abysses driven by the Woo WA5 headphone amp, HR reported: "I scribbled the phrase 'perfectly natural' several times. I never felt more kindred or connected to Schoenberg." He also suggested that the Abysses "delivered detail and soundstage images with an uncannily visual—nay, infinite—depth of field." HR later wrote that "The amazing part of the Abyss Phi TC 'phones is their complete absence of diaphragm breakup or modulation noise: They are the quietest speaker drivers I've ever heard. With the right amp, the AB-1266 'phones feel like they strip everything away between me and a recording." (Vol.40 No.8, Vol.43 No.5, Vol.44 No.10 WWW)

JPS LABS ABYSS DIANA TC: $5995 AS REVIEWED

The stock, fourth-generation Abyss Diana TC costs $4495; the review sample substituted a 1.8m Superconductor HP cable for the standard 1.5m cable, which can be terminated with three- or four-pin XLRs or a ¼" plug. Using Eleven Audio's Broadway amplifier, HR found that the 69 ohm, 90dB/mW-sensitive, 390gm Diana sounded smoother, darker, and more luxuriant than the earlier, 50 ohm, 88dB/mW-sensitive, 640gm Abyss AB-1266 Phi TC. Listening to *La Guitarra dels Lleons*, while the 1266 displayed more of the energized air surrounding Díaz-Latorre's guitar and exposed more of its internal volume, the Diana TCs kept him glued to the performances. "The Diana TC preserved the nuance of these artists' most subtle dynamic shifts, letting me feel the musicians 'feeling it' more and better than with the AB-1266 and every other headphone I can remember using," he wrote, concluding that "the Abyss Diana TC is the Abyss AB-1266 disguised as a pretty woman." (Vol.46 No.5 WWW)

MEZE AUDIO ELITE: $3999

The planar-magnetic drivers used in these open-back headphones feature a proprietary diaphragm/magnet assembly that Meze calls an "Isodynamic Hybrid Array." The ultrathin, biaxially oriented, semicrystalline polymer diaphragm weighs only 0.11gm and is driven by two driver coils to give a specified sensitivity of 101dB/mW with an impedance of 32 ohms. The Elite comes with two different earpads, one leather, the other made from a hybrid material and with a higher volume chamber. Despite the hybrid pads eliminating a slight bloom that shadowed the lower midrange with the shallower, all-leather pads, HR preferred the leather pads because he revels in "deep transparent spaces and luminous darknesses." Compared with his reference RAAL ribbons, the Meze sounded "smoother, more nuanced, kinder to singers, and easier on the mind." Compared with the Dan Clark Stealth headphones, the Meze Elite "did a better job transmitting the subtler aspects of vocal and instrumental tone and allowed vocalists to sound more like themselves." (Vol.45 No.9 WWW)

RAAL-REQUISITE SR1B: $3450V★
WITH RIBBON AMP INTERFACE: $3950

Described by HR as headphones that will satisfy "headphone connoisseurs and stubborn contrarians" alike, the off-the-ear RAAL-requisite SR1a's have a physical design that prevents them from covering or putting pressure on your pinnae: Their sound character is not determined in any way by a padded acoustical chamber around the listener's ears. Electrically, the SR1a's are built using open-baffle ribbon drivers, the very low impedance of which force the need for an impedance-matching box (included) and a 50–150Wpc loudspeaker amplifier (not included). Herb had his best results driving the RAAL-requisite 'phones with solid state amps and said of the SR1a/Pass XA25 amp combo, "No matter what hi-fi you have, it's unlikely to dig deeper and find more beauty in your recordings." When he tried the SR1a's with the Schiit Jotenheim R amplifier, HR commented that "The more I've used the SR1a, the more I've realized they reproduce recordings with unprecedented levels of musical texture and tactility" and concluded "No headphone images anywhere near as accurately or spectacularly as the SR1a, period." (Vol.43 Nos.1 & 7, Vol.44 No.10 WWW)

STAX SR-X9000: $6200

This electrostatic headphone uses a diaphragm made from ultrathin engineering film and is 20% larger than that of the previous Stax flagship, the SR-009S. Driving the Stax with Linear Tube Audio's Z10e amplifier, HR found that the soundspace the headphones generated "was full and complete, perfectly mapped, and cram-packed with delectable detail." With the same amplifier, he found that the SR-X9000 played very slightly brighter, more upfront, more distinctly detailed, and a tiny bit more physical than HiFiMan's Susvara planar-magnetic openbacks. "The Stax's upfrontness made the Susvara darker and deeper-spaced, more misty-humid than I usually perceive it to be," he wrote. With both the Z10e and Woo's 3ES amplifiers, HR concluded that the SR-X9000 "displayed greater microscopic resolution than every other transducer I have in-house including my ultimate reference, the JPS Labs Abyss AB-1266 Phi TC." (Vol.45 No.3 WWW)

T+A SOLITAIRE P: $6900

Made in Germany, the T+A's Solitaire P headphones use a relatively large, oval planar-magnet diaphragm made of "structurally stable High-Tech polymer." Impedance is specified as 80 ohms. Two sets of earpads are supplied: The standard earpads are covered with gray microfiber suede, while the "UWE" earpads use foam that is firmer than that in the standard pads and encased in perforated artificial leather on the inside and microfiber suede on the outside. The UWE earpads are described by the manufacturer as elevating the high frequencies "just enough to add sparkle and detail for those who prefer that type of sound." This was confirmed by HR, though he also felt these earpads lacked the rich harmonic underpinnings he prefers for a satisfying orchestral music experience. With the standard, nonperforated earpads, driven by T+A's HA 200 headphone amplifier, the Solitaire P sounded balanced, with saturated tone and spacious, fluent clarity. HR enjoyed what he described as the Solitaire P's "look-inside-the-recording transparency." (Vol.44 No.2 WWW)

ZMF AUTEUR CLASSIC: $1499.99 ★

The zebrawood Auteur LTD weighs 490gm, uses biocellulose diaphragms, combines fairly high sensitivity (97dB/mW) with a high impedance (300 ohms), and comes with two sets of earpads. HR preferred the standard, perforated Auteur pads, which he said "generated one of the most delectable midranges I have experienced." He found the Eikon pads emphasized the bass enough to slightly obscure that luscious midrange. (Vol.43 No.4 WWW)

ZMF VÉRITÉ CLOSED: $2499.99 ★

The MonkeyPod-wood Vérité Closed headphones weigh 35gm less than ZMF's Auteur LTDs due to using a magnesium headband rather than aluminum. Offering a sensitivity of 99dB/mW and an impedance of 300 ohms, the Vérité Closed headphones use an "ultra-thin" polyethylene naphthalate driver with a vapor-deposited beryllium coating. Using the standard Universe earpads, bass was tighter and more powerful than HR could remember experiencing with any headphones. "Piano and plucked-bass notes exhibited a very distinct leading edge, followed by an unusually solid note-center, followed by a trailing edge that I perceived as mildly attenuated," he wrote. Replacing the Universe earpads with the Vérité pads made the low frequencies sound perfectly tight and tuneful. "The midrange came up and brought the presence region with it. The 1–8kHz octaves were exquisitely detailed and wide open, he summed up, adding in a Follow-Up that "the Vérité was the Schiit Jotunheim's favorite headphone." (Vol.43 Nos.4, 5 & 7 WWW)

A

AUDEZE CRBN: $4500

The open-backed electrostatic CRBN—pronounced "carbon"—headphones weigh just 300gm and feature an "uncoated" polymer-film diaphragm infused with carbon nanotubes. HR found that with the Woo 3ES amplifier, the CRBN "resolved deep into the recording like the open-back planar-magnetic Susvara, and like JPS Labs' Abyss AB-1266 Phi TC,

but the music ... was more brightly lit and sharply focused than it is with those venerable magnifiers. With the Audeze, sounds were exquisitely formed, distinctly visual, and exceptionally three-dimensional." He concluded that the Audeze CRBN "distinguished itself by its understated clarity and lack of electrostatic-ness. Together, these traits produced a neutral, natural, high-detail, low-fatigue, listener-friendly headphone experience." (Vol.45 No.1 WWW)

AUDEZE LCD-X: $1199 WITH TRAVEL CASE ★

These large, luxurious, circumaural headphones have planar-magnetic drive-units with a thin-film diaphragm energized by arrays of powerful neodymium magnets on both sides. They employ Audeze-patented Fazor elements, claimed to guide and manage the flow of sound in the headphone. The circular drivers are housed in polished, black-anodized aluminum earpieces cushioned with generously sized foam pads covered in lambskin or leather-free microsuede. Adjustment is via notched, chromed metal rods attached to each earpiece, which fit into the sprung, leather-clad headband. The LCD-Xes produced a seductive, compelling sound with precise imaging, rich mids, smooth highs, and clean bass, JA said. Compared to his longtime reference Sennheiser HD 650s, the LCD-Xes resolved more detail, produced the more convincing sense of recorded ambience, and provided deeper bass. "Highly recommended!" JA concluded. HR found that the Audezes driven by the Schiit Jotunheim "gave reproduced music life and brilliance." "Creator Special" edition (without travel case) costs $1199. (Vol.37 No.3, Vol.41 No.6, Vol.43 No.7 WWW)

BENCHMARK HPA4: $3499; REMOTE ADDS $100

The HPA4 headphone amplifier adds a THX888 amplification stage to Benchmark's LA4 line preamplifier (see "Preamplifiers") to allow it to drive even low-impedance headphones with aplomb. It keeps the LA4's balanced and single-ended preamplifier outputs and adds a headphone output on a 4-pin XLR jack and a single-ended headphone output on a 1/4" jack. HR noted that with the hard-to-drive HiFiMan Susvara headphones, the HPA4 "showed each instrument in dramatic bas-relief. It accomplished this by presenting cleaner, better-articulated bass and manufacturing a sharper midrange focus than I had experienced previously with either my solid state reference, the Pass Labs HPA-1, or the tubed Linear Tube Audio Z10e." With the JPS Labs Abyss AB-1266 Phi TCs driven by the HPA4, "deep bass emerged with great volume and energy." "My romantic-dreamer mind adapted surprisingly well to the Benchmark HPA4's presentation," HR concluded. "The more I used the HPA4 to drive high-resolution headphones, the more comfortable I felt with its precise, pro-audio recording-studio aesthetic." JA noted that the the LA4 preamplifier was "the widest-bandwidth, widest-dynamic-range, lowest-noise, lowest-distortion preamplifier I had encountered at that time. ... To those virtues, the HPA4 adds equally superb balanced and single-ended headphone outputs." Optional remote costs $100. (Vol.44 No.2 WWW)

ELEVEN AUDIO (XIAUDIO) BROADWAY: $2599

The small, unglamorous looking Broadway is specified to output 1.5Wpc into 32 ohms in full, differential-balanced class-A. Its only input is balanced (XLR), and its two outputs are both balanced: 4-pin XLR and 4.4mm Pentaconn. A wallwart supply/charger is provided and the four user-replaceable, 3000mAh, 3.7V Li-ion batteries power the amplifier for up to six hours. HR used the Broadway to compare the Abyss Diana TC with the Abyss AB-1266 and Meze Elite headphones. The sonic signatures of all three were readily revealed. (Vol.46 No.5 WWW)

FERRUM OOR: $1995

DC-coupled, fully balanced headphone amplifier/preamplifier—single-ended input signals are converted to balanced—with adjustable maximum gain and four-pin XLR and 1/4" headphone outputs. Used as a preamplifier, the OOR reminded HR of "a middleweight boxer landing quick hard jabs; in music (not boxing), this quality emphasized tempo changes, plucked notes, and short pauses." Used as a headphone amplifier with JPS Labs Abyss AB-1266 Phi TC 'phones, the OOR reproduced a Huddie Ledbetter recording with the sound of Huddie's voice and guitar "taut, well-defined, and clear as clear can be." Adding Ferrum's HYPSOS supply—see Powerline Accessories—ameliorated some dryness and grayness that had been evident on Ledbetter's voice. (Use with the HYPSOS is essential for Class A performance.) HR concluded that the OOR/HYPSOS combo "will drive any headphones effortlessly while preserving the soul and essence of the music they amplify." (Vol.45 No.2 WWW)

FOCAL CLEAR MG: $1499

Focal's Clear Mg headphones replace the original Clear's aluminum-magnesium alloy–dome drive-units with pure-magnesium domes, these ensconced in a chestnut-colored, honeycomb-grilled headset finished in leather, microfiber, and "mixed metals." The new Clear is more clear than the old Clear, decided HR: "the Mg produces a fresh, bell-like clarity that puts my mind closer to and further inside every recording. Reverb has more presence with the Clear Mg. Piano notes have better-articulated attack and decay. Guitar strings are tauter and more vividly described." However, while with every recording HR tried, the new Clear Mg sounded more transparent, more sharply focused, more punchy, and more left-brain precise than the original Clear, on every male and female vocal, the old Clear put him closer in touch with the singer's personality. (Vol.44 No.9 WWW)

FOCAL STELLIA: $2999

When he first heard these closed-back headphones, which use 1.5" M-shaped electrodynamic beryllium-dome drivers and have a 35 ohm impedance, HR felt that they "were delivering a very high level of relaxed and refined sound, with no beryllium metallic-ness." As he continued to listen with the Feliks Euforia amplifier, he heard "more excitement and colorful energy" than with the Focals powered by the Auris Nirvana. HR concluded that with the HoloAudio May DAC and the Euforia amplifier, "Focal's Stellia closed-backs produced vital, exciting sound." (Vol.43 No.10 WWW)

ORTOFON INC
500 Executive Blvd, Suite 102, Ossining, NY 10562
914.762.8646 · info@ortofon.us · ortofon.com

ortofon
accuracy in sound

HEADAMP GS-X MINI BALANCED: $1795
The first HeadAmp product to "deliver balanced headphone drive from all sources, single-ended or balanced," the GS-X Mini offers potentiometer or optional stepped-attenuator volume controls and is specified to output 6W of power into a 25 ohm load. HR found that this solid state amplifier made clear the sonic differences between the headphones with which he used it. Compared with the considerably more expensive, tubed Felix Envy, HR found that the GS-X Mini made music feel unnecessarily tight and tidy in a way that limited expansiveness and atmosphere. "The Mini is extremely transparent and handles reverb very nicely," he wrote, "but it hits that old 'transistor ceiling' when reproducing tone color, microtextures, and the empty spaces between sounds." (Vol.45 No.9, Vol.47 No.2 WWW)

HEDD AUDIO "HEDDPHONE": $1899
The "HEDDphone" headphones use full-range, air-motion-transformer (AMT) drive-units and proved a synergistic match with the Pass Labs HPA-1 and Feliks Audio Euforia headphone amps, found HR, commenting on "an extraordinary level of transparency." (Vol.43 No.7 WWW)

HIFIMAN AUDIVINA: $1999
This closed-back, planar-magnetic headphone distinguishes itself visually from HiFi Man's "round" R10 models by its wooden ovoid cups. HR found the Audivana offered a "more sun-soaked sound" than the R10P. "The Audivina not only play bright and clear, it brought sparkle to the eye," he wrote, adding that the Audivina "let the voice of a singer like Natalie Dessay soar and swing and only disappoint you if you're waiting for a bad note or a top-octave flair-out. The entire range of Dessay's voice was reproduced with a riveting, delirium-inducing beauty." He concluded that "never for a moment would I have traded the Audivina's tonal purity and state-of-the-art transparency for whatever spatial effects an open-back headset might offer." (Vol.46 Nos.7 & 8 WWW)

HIFIMAN HE-R10D: $599
The R10D closed-back, planar-magnetic headset looks exactly the same as the more-expensive R10P except that the R10P is made of a darker, heavier wood. (The R10D weighs only 337gm compared with the R10P's 460gm.) HR found that the R10D took a while to break in, but when it did, it was possibly the sweetest, smoothest, most all-natural-sounding headphone anywhere near its price. The R10D excelled on all types of female vocals, HR concluded. (Vol.46 No.8 WWW)

IFI ZEN CAN SIGNATURE: $599
Packaged with the ZEN DAC Signature V2—see "Digital Processors"—this headphone amplifier is available in two versions: the 6XX, which includes equalization to optimize the sound of the Sennheiser x Drop HD 6XX and HD 650 headphones; and the HFM, which has equalization for the HiFiMan x Drop HE4XX 'phones. Apart from the different EQ curves, the two versions contain identical circuitry, and the EQ can be bypassed for use with other headphones. The ZEN CAN also includes iFi's XSpace feature, which is intended to expand the perception of space and project the music outside your head. The amplifier offers four choices of maximum gain, from 0dB to 18dB from the single-ended outputs, 6–24dB from the balanced outputs. JMu found that even with the lowest gain setting, the ZEN DAC Signature's balanced output was too "hot." She found that using iFi's iEMatch attenuating balanced cable ($49) gave a better gain match between the two iFi Signature products, though JCA didn't find the attenuator cable necessary with the same headphones. JMu auditioned both versions of the ZEN CAN with the appropriate headphones. With the EQ, she heard sharper transient attacks, more air and presence, and more detail and clarity, adding that "yes, the EQ curve obviously boosts the bass," which correlates with JA's measurements. JCA found that the effect of the CANs' custom EQ wasn't dramatic, but it was positive, especially with the HiFiMan headphones, which could sound a bit woolly without it. Without EQ, JMu found that "tonal balance with the ZEN set seemed extended and neutral, with rare hints of brightness." JMu concluded that the ZEN Signature sets "offer impressive sound quality—and a bit of style—for not a lot of money." (Vol.45 Nos.1 & 3 WWW)

LINEAR TUBE AUDIO Z10E: $6950 ★
The all-tube Z10e integrated amplifier/headphone amplifier/electrostatic headphone amplifier is built around a David Berning–designed, push-pull, output-transformerless (OTL) EL84-tube power amplifier that is rated at 12Wpc into 8 ohms and 13Wpc into 4 ohms. "The Z10e is a distilled, shape-shifted version of the Z10, designed to appeal to today's new breed of headphone collector-connoisseurs," HR wrote. It also has a five-pin, 580V-energized output to drive Stax electrostatic headphones. Though he liked how this amplifier sounded with high-sensitivity DeVore and Zu loudspeakers, he mostly used it with a variety of headphones. The Z10e got the best from Abyss AB-1266 Phi TC, Focal Clear, and ZMF Vérité Closed dynamic headphones and excelled with Stax SR-009S and Dan Clark Voce electrostatics. Herb found it wasn't powerful enough to drive the demanding HiFiMan Susvaras, but then it was upgraded to deliver the full 10Wpc to headphones. After the update, it reproduced low frequencies that were "delectably large." HR summed up the revised amplifier by saying, "The LTA Z10e/Susvara combo missed no beats, showed no weaknesses, and kept my head bopping. ... The Z10e amp displayed no hesitations, dullness, or clipping; no smoke from the tires, no engine stalling—only full-traction, high-torque engagement." With the Audeze CRBN headphones, the Z10e's "overall timbre and tone were just right and satisfyingly color-saturated." Compared with the Feliks Envy using HiFiMan's easy-to-drive, closed-back R10P planar magnetics, HR noted that the Z10e sounded slightly warmer with a slightly less-sharp focus. (Vol.43 No.5, Vol.44 No.2, Vol.45 Nos.1 & 3, Vol.47 No.2 WWW)

MEZE 109 PRO: $795
See Herb Reichert's Gramophone Dreams column in this issue. (Vol.47 No.4)

NAIM UNITI ATOM HE: $3799
The "Headphone Edition" of Naim's Uniti Atom streaming D/A integrated amplifier, the Atom HE features both single-ended and balanced headphone outputs as well as a preamplifier output. Inputs include a single unbalanced analog on RCA and digital—two TosLink S/PDIF, one coaxial S/PDIF, USB, Ethernet, and Bluetooth (aptX). Control is via buttons next to the front-panel display, Naim's iOS and Android apps, or with Roon. Used as a D/A preamplifier, the Atom impressed HR: It reproduced the body and reverberant character of a piano as graphically and completely as his Rogue RP-7 preamp sourced by the dCS Bartók. "That, folks, is saying a lot," he wrote. With the Atom HE powering the easy-to-drive, low-impedance (35 ohms), high-sensitivity Focal Stellia headphones, HR felt the sound was "squeaky-clean, bass-taut, and superdynamic lively." After five weeks of auditioning the Uniti Atom HE with a variety of headphones, HR concluded that its best and most obvious trait "was how gracefully and insightfully it danced through one musical genre after another. It was never not enticing. It was never not engaging. It never disappointed." However, he did caution that the Atom HE plays best with headphones with a sensitivity of 88dB/mW or higher. HR subsequently used the Uniti Atom to compare the 2020 and 2022 versions of Focal's Utopia headphones. (Vol.44 No.9, Vol.46 No.5 WWW)

PASS LABS HPA-1: $3675 ★
Also usable as a line-level preamp—it has a pair of single-ended RCA output jacks—the Pass Labs HPA-1 is a perfectionist-quality headphone amplifier that uses a MOSFET-based current-feedback amplifier to drive headphones ranging from 15 to 600 ohms. Its single headphone-output jack, also single-ended, is a Neutrik locking jack sized for ¼" plugs. After auditioning the HPA-1 with a variety of 'phones from Audeze, AudioQuest, and Master & Dynamic, JA declared that "in bass quality and authority, and in midrange transparency, the Pass Labs HPA-1 is without peer." JA also brought the HPA-1 to his test bench, where it stood up to everything he could throw at it (well, not literally), prompting this summary appraisal: "superb audio engineering." One of HR's long-term reference headphone amplifiers. (Vol.39 Nos.7 & 9, Vol.43 No.7 WWW)

SENNHEISER HD 650: $499.95 ★
The HD 650s are an evolution of Sennheiser's very successful HD 600 open-back dynamic headphones, claimed to provide superior results due to hand-selected parts with closer tolerances and the use of a specially developed acoustic silk for the driver diaphragms. Compared to the Grado SR325i, the Sennheisers sounded richer but slightly darker. JM found that their very effective seal created a resonant cavity that produced "bass that is both quite deep and a trifle indistinct." JA's new reference cans. Compared to the Audeze LCD-Xes, the HD650s had a similar overall sound, but lacked bass control, detail resolution, and ambience retrieval, said JA. (Vol.28 No.6, Vol.31 No.9, Vol.37 No.3 WWW)

T+A HA 200 DAC/HEADPHONE AMPLIFIER: $9650
This class-A headphone amplifier has analog and digital inputs, the latter processing DSD and PCM data independently, each in its own optimized pathway. Users can choose between four reconstruction filters plus a NOS (non-oversampling) mode. One of the USB inputs accepts PCM sampling rates up to 768kHz and DSD up to DSD1024. (The other is for "possible future extensions.") An optional HDMI module ($600) adds two HDMI inputs and one ARC (Audio Return Channel) HDMI output. The HA 200 has three outputs: balanced on a 4.4mm Pentaconn jack, balanced on a 4-pin XLR jack, and single-ended on a standard ¼" stereo jack. Each output has adjustable impedance. Comparing the T+A with the Pass Labs HPA-1, HR felt that the German HA 200's soundfield was "more of one piece, the music more relaxed." Comparing the T+A with the Benchmark HPA4, he felt that the expensive German amp beat the moderately priced American amp "at its own force, clarity, and specificity game." (Vol.44 No.2 WWW)

WARWICK ACOUSTICS BRAVURA: $5995
WITH "BLACK EDITION" FINISH: $6795
This British electrostatic system includes a D/A-energizer/amplifier. The headphones use patented membrane technology that employs a thin laminated film affixed to an open, eight-cell insulating spacer made of Formex. HR described the Bravura's sound quality as "clearly stated, tight and strong of bass, and rhythmically forceful, with good body and timbre." He concluded that "The Bravura's unbypassable digital processing made it impossible for me to say anything verifiable about how Warwick Acoustics' newest electrostatic headphone system compares to any other electrostatic headphone you might be familiar with. But my diverse listening experiments lead me to conclude that, for anyone seeking a handsome, comfortable, reasonably priced, substantially built, exceptional-sounding entry into the realm of electrostatic headphones, the Bravura is a must audition." (Vol.45 No.7 WWW)

WOO AUDIO 3ES: $8999 (STANDARD VERSION)
Two-chassis, 53lb headphone amplifier with XLR and RCA inputs but only balanced outputs, which doubles as a preamplifier. Standard-version tube lineup is four Psvane 300B directly heated triodes, two Russian-made 6SN7 dual triodes, and a single (Russian) 5U4G rectifier tube. Elite edition ($11,699, not reviewed) offers upgraded components. As a preamplifier, compared with HR's reference Rogue RP-7 the 3ES was "more spirited, more physical, more locomotive-rolling-forward." As a headphone amplifier—it can drive both dynamic and electrostatic headphones—HR found that with Audeze CRBNs the Woo produced "sounds [that] were exquisitely formed, distinctly visual, and exceptionally three-dimensional." With the Stax SR-X9000 electrostatics, the 3ES emphasized the speed and timing of the groove, though it sounded cooler and dryer than the Linear Tube Audio Z10e, with less detail. (Vol.45 Nos.1 & 3 WWW)

B

AUDIOQUEST DRAGONFLY BLACK: $129.95 $$$ ★
AUDIOQUEST DRAGONFLY COBALT: $199.95 ★
AUDIOQUEST DRAGONFLY RED: $249.95 $$$ ★
In 2016, AudioQuest replaced their original DragonFly USB D/A processor-headphone amplifier with two new models—the DragonFly Black and DragonFly Red. Like their popular forebear, both models were designed by computer-audio pioneer Gordon Rankin, and both offer 24 bit/96kHz resolution. AD wrote of preferring the DragonFly Black's "superior

SVS SOUND REVOLUTION

Award-Winning Sonic Excellence.

"I was unprepared for the fun I had. I still don't quite believe it. ***New lows in reference subwoofer performance, indeed!"***

SB-3000

stereophile RECOMMENDED COMPONENT 2023

"Pitch-perfect, detailed, fast bass, and enough ***power to function in my large listening room.*** *A Class A component if ever there was one."*

SB16-Ultra

stereophile RECOMMENDED COMPONENT 2023

stereophile RECOMMENDED COMPONENT 2023

"Music had significantly more air, space, reverb, trails, timbre, nuance, and emotion. ***Highly Recommended!"***

3000 Micro

stereophile RECOMMENDED COMPONENT 2023

"Versatile powered speakers capable of ***unabashed performance.*** *Prime Wireless Pro are the category contenders to beat!"*

Prime Wireless Pro Powered Speaker Pair

Learn more at **SVS**ound.com

musical incisiveness" compared to the original 'fly of 2012; for its part, the Red, which has higher output voltage than the Black, offered "surer reproduction of pitches and timing." But he felt that, for headphone listening with an iPhone, there's no sense opting for the twice-as-expensive Red if that's all the consumer has in mind. The new (2019) DragonFly Cobalt boasts a faster microcontroller and a newer processor chip (the ESS ES9038Q2M), plus improved power-supply filtering. When used in his home system, the Cobalt impressed JA with better bass extension and control than the Red, which also sounded "slightly 'harder' in the highs"—although he also noted that the distinctions between the two tiny DACs were "relatively small." JA the Measurer, who in 2016 noted that neither the Red nor the Black were at the head of the class in terms of jitter rejection, observed "excellent rejection of word-clock jitter" from the Cobalt, which he praised for "[performing] well on the test bench." JA adds some remarkable praise for a $300 DAC: except for its limited ability to drive low impedances, the Cobalt would be Class A. (Vol.39 No.9, Vol.42 No.12 WWW)

FOCAL BATHYS: $699

These closed-back headphones offer active noise cancellation and can be used with or without wires. Without wires, the Bathys uses Bluetooth 5.1; with wires, it uses USB-C. (While the USB-C connection works natively with Android devices, iOS devices need Apple's "Camera Kit" Lightning-to-USB dongle, along with a USB-C–to–USB-A adapter.) The built-in DAC supports PCM audio up to 24/192. Controls are placed on the right-hand cup; as well as power on/off and source selection, these offer three noise-cancellation choices, can summon Amazon Alexa, Google Assistant, or Apple's Siri, and even operate a hearing test, with the supplied Mimi app, to tailor the headphones' equalization for the user's hearing. In Bluetooth mode, even without EQ or Mimi, RvB found the sound of the Bathys "impactful, punchy, and convincing." He noted that detail retrieval was especially excellent on acoustic instruments and vocals, male voices sounded natural and not overly chesty, and transients were "extraordinary" for 'phones with dynamic drivers. (Vol.47 No.2 WWW)

QUESTYLE AUDIO M12: $139.99 $$$

This tiny, 2"-long USB D/A headphone amplifier has a USB-C port on one end and a 3.5mm stereo headphone jack on the other end. The Questyle can decode 16-, 24-, and 32-bit PCM data sampled at all rates from 44.1 to 384kHz and DSD data up to DSD256. It can also act as an MQA renderer. Barely visible LEDs indicate the incoming data format and whether the M12 is operating with high or low gain. (It automatically detects the impedance of the headphones plugged into it and adjusts the gain accordingly.) JA felt the low frequencies were too warm with the 23 ohm AudioQuest NightHawk headphones; the bass was better-defined both with low-impedance Audeze LCDXes and high-impedance Sennheiser HD-650s. Overall, JA found the M12's clarity with all three headphones impressive. In level-matched comparisons with the more expensive AudioQuest DragonFly Cobalt, the instrumental images sounded a bit more palpable with the pricier dongle. However, the M12's "transparency, coupled with the ability to control the low frequencies with low-impedance headphones, is impressive for such a relatively low-priced device," JA concluded. (Vol.45 No.2 WWW)

C

APPLE AIRPODS PRO 2: $249/PAIR

Although the new Bluetooth 5.3 standard implemented in the Pro 2 can handle lossless streaming, Apple sticks to its own AAC codec for this noise-canceling wireless in-ear monitor. RvB commented that in terms of convenience and thoughtful touches, the AirPod Pro 2 made the ownership experience second to none—"awe-inspiring, in fact." An interactive ear test lets you tailor the Pro 2's sound to your ears and compensate for hearing deficiencies. Additionally, you can engage Personalized Spatial Audio after using your iPhone's TrueDepth camera to measure your face and each ear, yielding a unique earprint. Although the full noise-canceling mode is best for use in noisy surroundings, RvB preferred the Transparency mode, which lets in a small portion of the room's environmental sound. "Overall, I found the music a bit more spacious with Transparency turned on," he wrote. He concluded that while he had mixed feeling about the spatial audio surround-sound performance—it worked well with Atmos-encoded movie soundtracks but he found it mildly annoying with some music—he admired the AirPod Pro 2 for how well-thought-out it was, and loved how cleverly the pair was integrated with Apple iOS devices. (Vol.46 No.3 WWW)

SCHIIT AUDIO VALI 2+: $149 $$$

This bargain-priced headphone amplifier uses a single 6BQ7A/6DJ8/6922 dual-triode tube, has both RCA and headphone outputs, and has high-gain and unity-gain settings. HR commented that it was "impossible to not notice how much solidity, punch, drive, and bite the Vali 2+ (on Low gain) had powering the 32 ohm, high-sensitivity (106dB/mW/1kHz) Focal Stellia closed-backs." However, he found that the more he raised the volume, the harder the sound became. Nevertheless, if a $149 headphone amplifier must veer from perfection, maybe it is best if it goes soft and colorful, as the Vali did with some other Focal headphones, the Focal Clear. "Hard, gray, and glaring is more the norm in this price range," HR reminded us. When Herb replaced the stock 6BQ7A tube with a NOS, made-in-Japan, Electric Industry Co. 7DJ8, the effect was "lit from the inside" luminosity with greater definition and voice intelligibility. On the test bench, the Vali 2+ offered a low level of predominantly second-harmonic distortion in unity-gain mode, but this harmonic did increase significantly in high-gain mode. As this wasn't accompanied by higher-order harmonics or intermodulation distortion, JA felt that he would expect a "fatter" sound in this mode. (Vol.44 No.5 WWW)

DELETIONS

Hagerman Audio Labs Tuba, not reviewed in a loing time.

COMPLETE AUDIO SYSTEMS

A

JBL 4329P: $4500/PAIR (STANDS NECESSARY)

Class A rating is as a Complete Audio System; class B (Restricted LF) as a regular loudspeaker. See Loudspeaker Systems. (Vol.46 No.10 WWW)

KLIPSCH THE NINES: : $1499/PAIR (STANDS NECESSARY) $$$

Class A rating is as a Complete Audio System only. See Loudspeaker Systems. (Vol.47 No.2 WWW)

DYNAUDIO FOCUS 10: $5500/PAIR (STANDS NECESSARY)

Class A rating is as a Complete Audio System only. See Loudspeaker Systems. (Vol.46 Nos.2 & 11 WWW)

B

NAIM MU-SO 2ND GENERATION: $1299 WITH STANDARD GRILLE FABRIC $$$

This slim, all-in-one, Roon Ready networked music system has a tweeter, a midrange unit, and an oval-shaped woofer for each channel, all powered by direct-digital, class-D amplification. The integral DSP offers three room compensation settings. There is also an alarm and a sleep timer. The major digital streaming services, including Spotify, Tidal, and Qobuz, are handled natively, and the Mu-so also offers AirPlay 2 (iTunes and Apple Music) and Chromecast. There are analog, S/PDIF, USB, Bluetooth, HDMI ARC, and wired and Wi-Fi network inputs, though other than the USB port, the physical inputs are inconveniently placed on the bottom of the chassis. The Mu-so can be controlled by a remote control, by its own touch controls, and by the Naim app for Apple iPad, iPhone, iPod Touch, and Android devices. JMu was well-impressed by this app. She was also impressed by the sound, writing "a few sonic characteristics stood out: crisp clarity with more detail and dynamic output than I expected. Subjective impressions of bass extension seemed to exceed what's possible from small drivers within a smallish box." How did JMu conclude her review? "The musical Mu-so 2nd Generation offers serious sound and engineering from a respected maker, but it's also built for fun. I wanted to keep on listening, and that speaks volumes." Additional grille color options add $90 to price. (Vol.43 No.10 WWW)

SONUS FABER OMNIA: $1999

RvB was impressed by the sound of this single-box, Bluetooth- and Wi-Fi–enabled, DSP-optimized, active stereo loudspeaker system. It uses a single 6.5" woofer, two 0.75" silk-dome tweeters, a pair of 3" midrange drivers, and two 1.75" drivers that fire to the sides to widen the soundstage. The Omnia includes an analog line input, a MM-compatible phono input, an HDMI ARC input, and an Ethernet port. While there is a remote control, the Omnia can also be controlled by a web page or by Roon. As you might expect from a 6.5" woofer in a small enclosure, the lowest octaves were restricted, though RvB found that definition and timbre were still quite good. "Most music I played had a proper foundation, with enough bass weight to satisfy, even seduce," he wrote. His conclusion: "The Omnia wireless speaker is beautifully designed, well built, and sonically gifted." (Vol.45 No.8 WWW)

SONY SA-Z1 DESKTOP SYSTEM: $7999.99 ★

This unique active desktop system is intended to be listened to in the nearfield, with the close-spaced boundaries reinforcing the lower midrange and bass. Back-to-back 4" anodized-aluminum woofers minimize enclosure vibrations, and the primary tweeter is flanked by two smaller tweeters, one above and one below. The three tweeters use soft domes sputtered with titanium and are mounted on a gantry in front of the front-firing woofer. All five drive-units are powered by PWM amplifier modules featuring gallium nitride (GaN) transistors. The SA-Z1 makes abundant use of DSP to optimize its sound quality. The system has balanced and single-ended analog inputs and USB and TosLink digital inputs. According to Sony, the digital inputs are preferred. Several DSP functions can be applied with the digital inputs, including adjusting the crossover between the front and rear woofers, changing the time alignment of the flanking tweeters, and upsampling to PCM or DSD. Setup is crucial, JVS advised, but once he was satisfied with the placement and had replaced his large computer monitor between the speakers with his smaller-screened laptop, he noted (using the USB input) that despite the small woofers' inability to reach as low as a mighty organ can go, "bass was otherwise tight and convincing, the midrange was warm, and highs were as rousing as one might wish for. Images weren't gigantic, but the way the soundstage expanded beyond and through the speakers was awe-inspiring." He concluded, "the SA-Z1 is capable of opening up entire new realms of personal listening." (Vol.44 No.3 WWW)

DELETIONS

Andover One, not reviewed in a long time. ■

NOTE TO READERS

Due to space limitations, the following sections had to be omitted from this print edition of Recommended Components: Subwoofers; Digital Datalinks; Interconnects; Loudspeaker Cables; Miscellaneous, Phono, & Powerline Accessories; Stands, Spikes, Feet, & Racks; Computer Software; Room Acoustic Treatments; FM Tuners; and Books. These can be found at stereophile.com/category/recommended-components.

DYNAUDIO Confidence **60**

Discover the full range at www.dynaudio.com/confidence

JASON VICTOR SERINUS

EMM Labs MTRS

STEREO POWER AMPLIFIER

Edmund (Ed) Manfred Meitner's name and reputation have long been synonymous with pioneering achievements in the fields of digital audio, especially DSD. In 1971, after designing the first fully automated studio console, Ed identified what he calls "the jitter problem." He worked with Sony and Philips to help create and refine SACD and subsequently designed the first complete six-channel DSD playback system for home use.

In 1998, while developing the eight-channel A/D and D/A DSD converters still used to create most SACDs, Ed founded EMM Labs[1] and became head of design, with the goal of bringing DSD to the consumer realm. Far more recently, he designed the EMM Labs DS-EQ1 and Meitner DS-EQ2 optical equalizers, which are sanctioned by DS Audio for use with their optical cartridges.

Less widely discussed are Ed's amplifier circuit designs, which are the heart of the EMM Labs MTRX and MTRS amplifiers he designed collaboratively with Mariusz Pawlicki, EMM manager of R&D, and the late Zenon "Zanny" Muzyka. Mariusz helped develop the operating scheme for the amplifiers, the "smarts" in the amplifiers' monitoring and protection schemes, and their new "hybrid" power supplies. (More on this below.) He is also actively involved in quality control (QC) and measures every amplifier that leaves EMM Labs. Zanny, who passed before completion of EMM's latest amplifier designs, contributed to their industrial design and power supply.

EMM Labs' history producing amplifiers dates back to 2012, when it released the original 1500W class-AB MTRX mono amplifier ($130,000/pair). The company has since released various upgrades, including those to the driver/input stage. In 2015, EMM released the 1000W MTRX2. Most recently, in November 2023, EMM announced its successor, the 1000W MTRX2 V2 monoblock

1 Ed's original amplifier designs were the MuseaTex STR55 stereo MTR101 mono amplifiers, which he created decades ago.

SPECIFICATIONS

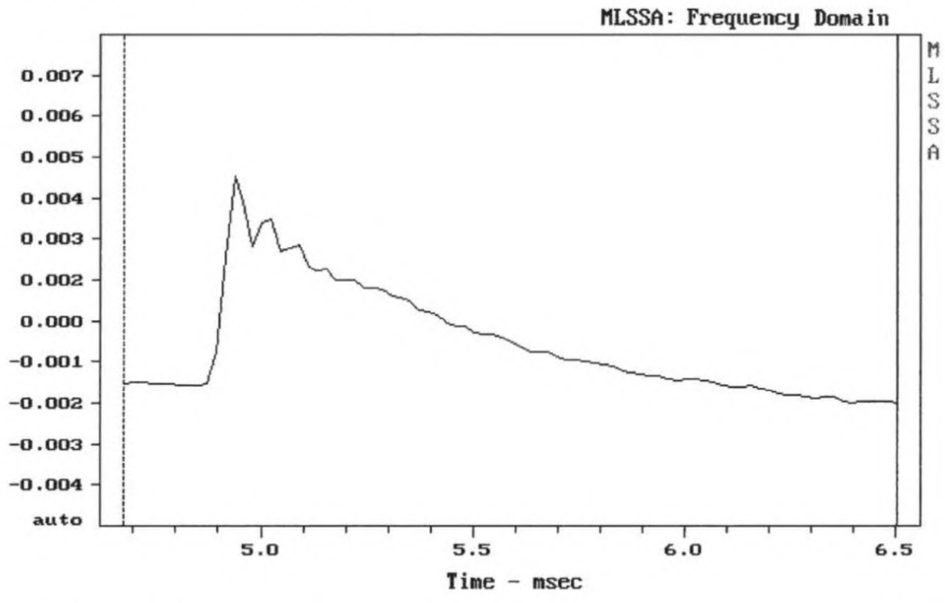
Description Solid state class-AB power amplifier with custom Kimber Kable PK10 Ascent 30A power cable. Inputs: 1 pair each balanced (XLR) and single-ended (RCA). Output: 2 pairs Furutech loudspeaker binding posts. System: RS-232 communication port. Rated output power: 400Wpc peak power, 330W RMS continuous power per channel into 4 ohms (22.18dBW). Voltage gain: 30dB. Frequency response: 0.1Hz–200kHz (full rated power). S/N ratio: >120dB (A-weighted). Both THD+N and IMD: <0.01% (20Hz–20kHz at full rated power). Slew rate: >100V/µS. Damping factor: >200. Input impedance: 100k ohms balanced (XLR) and single-ended (RCA).
Dimensions 21.4" (544mm) W × 23" (584mm) D × 11.7" (297mm) H. Weight: 180lb (82kg). Shipping dimensions (shipped in a wheeled flight case): 27.17" (690mm) × 29.1" (740mm) × 23" (585mm). Shipping weight: 203lb (92kg).
Finish Silver and black.
Serial number of unit reviewed 2302. Designed and built in Canada.
Price $65,000. Approximate number of North American dealers: 35. Warranty: 5 years.
Manufacturer/Distributor
EMM Labs and Meitner Audio,
119 - 5065 13th St. S.E.,
Calgary, Alberta, Canada
T2G 5M8.
Tel: (403) 225-4161.
Email: sales@emmlabs.com.
Web: emmlabs.com.

THE WORLD'S ONLY EXCLUSIVELY ANALOG

TIME-AND-PHASE-CORRECT SPEAKERS

WITH ROOM EQUALIZATION

It is not easy to build a *Time-and-Phase-Correct* speaker. We do it because it matters to us. It is only one of the critical parameters for state-of-the-art speaker design, and not all music lovers will appreciate its importance. For those who understand, these speakers are your only option; there are no others.



Measurement Shows Undeniable Proof of Time and Phase Correctness
8-foot or greater listening distance with speaker tilt set for ear height

VANDERSTEEN

vandersteen.com • 559-582-0324

Made in the U.S.A. Contact a Vandersteen Dealer Today

Owners Forum: Forum.Vandersteen.com

($115,000/pair), as well as the MTRS ($65,000), the company's first-ever stereo, class-AB power amplifier and the subject of this review.

The new MTRS

The brochure for EMM's first stereo amplifier states that the MTRS, with its 400Wpc peak power into 4 ohms, "is able to drive the most severe loads with no overall feedback, using Ed's completely redesigned high current Meitner Power Driver. The MTRS can handle any speaker load with ease, delivering high power, low distortion, and wide bandwidth."[2] The MTRS also incorporates a new, proprietary power system, fully discrete circuits, fully balanced audio paths throughout, custom ceramic PCB boards, and real-time protection to avoid speaker and amplifier damage.

Save for specifications, the website provides very little additional information—so, shortly before deadline, in an attempt to glean more information, I participated in a Zoom conversation with Ed, Mariusz, EMM COO Amadeus (Deus) Meitner (who is also Ed's son), and Director of Sales and Marketing Shahin Al Rashid. Because Ed was recovering from surgery, the conversation was brief. Additional details arrived by email from Deus and Mariusz.

"Everyone else on the design team came up with the idea of the MTRS, because I never in my wildest dreams imagined making a stereo amp," Ed said as he threw the first of several monkey wrenches into our chat. "I think it's the wrong way to build amplifiers. You wonder about interference from left and right channels, and you compromise the whole situation by putting it all in one box. It's kind of stupid. Stereo amps are common, and maybe people like them better. They're just not my dream for proper setup."

Having interviewed Ed before—his son frequently calls him "a lovable pain in the ass" to his face—I smiled, chuckled inside, and waited to see how everyone would maneuver around the landmine that the amp's own circuit designer had placed in our path.

Deus attempted to defuse. He noted that the size and weight of EMM's big monoblocks is hardly ideal for apartments in Singapore and Hong Kong. The same holds true for small flats in London, or anywhere with insufficient power to run those big boys. For many people, a stereo or integrated amplifier is the way to go. Perhaps the only way.

"The transformers we used in our original MTRX mono amplifiers are no longer available," he added. Obsolescence is an opportunity for improvement. "Now we have an altogether new power

2 See, eg, emmlabs.com/images/products/manuals/MTRS_Manual_V1.1.pdf.

MEASUREMENTS

I examined the EMM Labs MTRS's measured behavior with my Audio Precision SYS2722 system.[1] After connecting the amplifier to the wall supply with the supplied Kimber Ascent cable, I preconditioned the MTRS, following the CEA's recommendation of running it at one-eighth the maximum power into 8 ohms for 30 minutes. At the end of that time, the temperature of the top panel was 80.6°F (27.0°C) and that of the heatsinks 94.4°F (34.7°C). Given the relatively low heatsink temperatures and the amplifier's massive size, I subsequently ran it for an hour at one-third the maximum power into 8 ohms. (With a class-AB amplifier, one-third power results in the maximum heat dissipation in the output devices.) At the end of that time, the heatsinks were somewhat warmer, at 104.2°F (40.1°C). The MTRS has more-than-sufficient heatsink capacity for its high output power.

I performed all the testing using the EMM's balanced inputs, then repeated some tests with the single-ended inputs. (Although this wasn't mentioned in the manual at the time, I needed to short the XLR jacks' pins 1 and 3 for these tests, as otherwise the amplifier's gain changed unpredictably.) Both input types preserved absolute polarity, ie, were noninverting. The MTRS's input impedance is specified as 100k ohms for both input types. I measured 114k ohms at 20Hz, 100k ohms at 1kHz, and 90k ohms at 20kHz for the balanced inputs. The single-ended input impedance was 47k ohms at 20Hz and 1kHz, 40k ohms at 20kHz. The voltage gain is specified as 30dB for both balanced and single-ended inputs. I measured 29.6dB at 1kHz into 8 ohms for both types.

The EMM amplifier's output impedance, including the series impedance of 6' of spaced-pair cable, was relatively low at 0.22 ohm at low and middle frequen-

1 See stereophile.com/content/measurements-maps-precision.

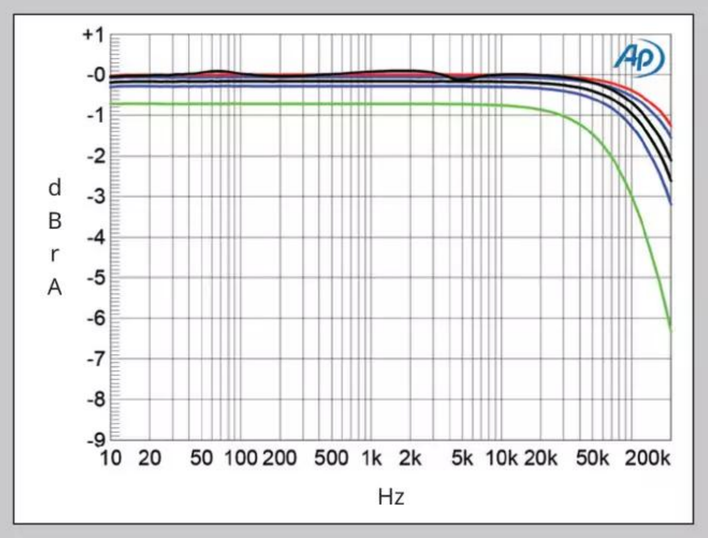


Fig.1 EMM Labs MTRS, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right channel red), 4 ohms (left cyan, right magenta), and 2 ohms (green) (1dB/vertical div.).

There’s life upside-down.

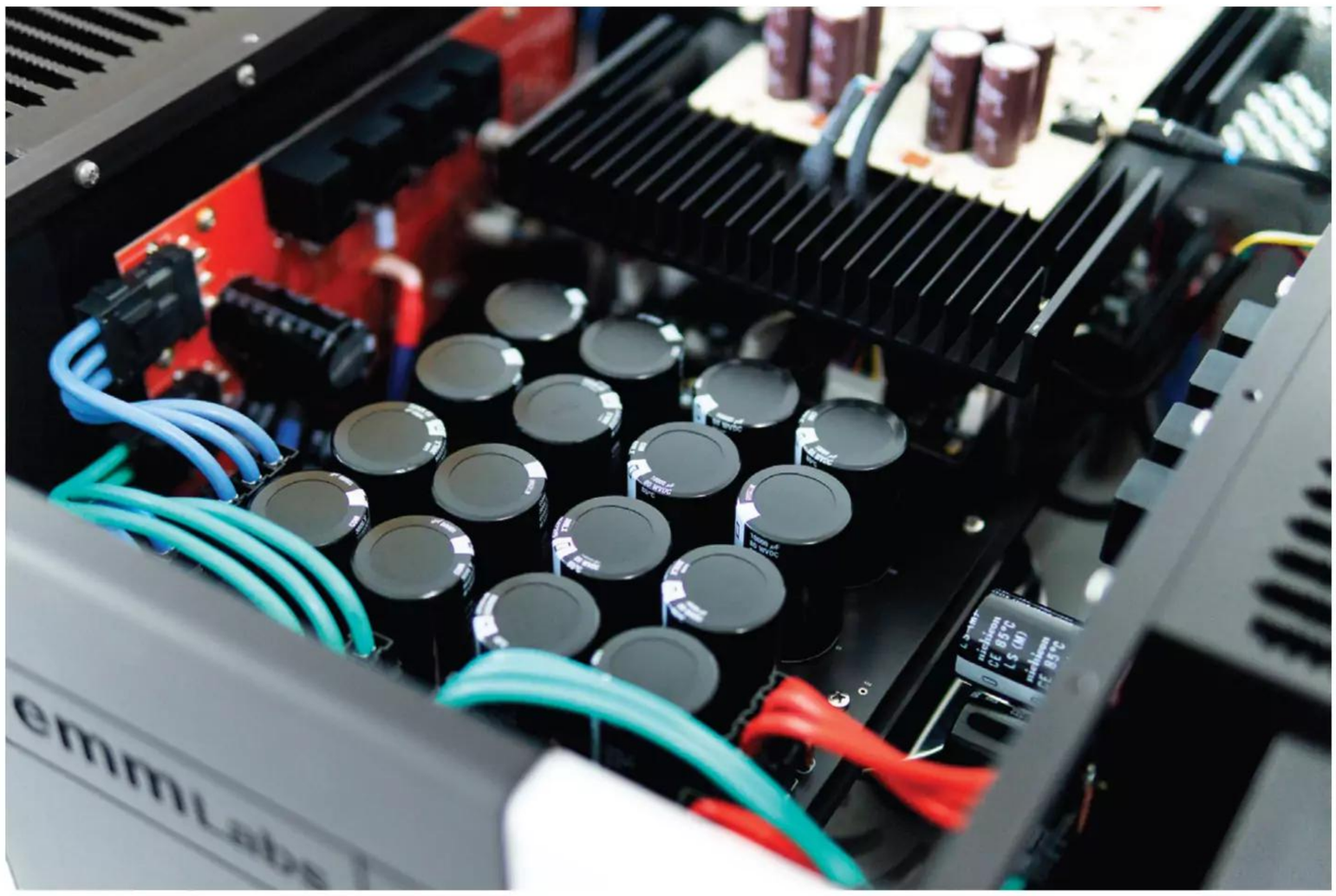
SCHIIT.COM

scheme that, together with a new input stage and management system, is much better. The new technology is a big step up from the original design, and all of it is fully incorporated into the MTRS stereo amp."

Even Ed seemed to backpedal a little bit, offering faint praise for this Ed Meitner stereo amplifier. "We've made sure the MTRS is reliable and won't set things on fire," he said.[3] "In all the years we've had our 1.5kW amplifiers, we've never had a problem." And then he went further. "Ultimately, I'm reasonably satisfied with what we've accomplished with this stereo amplifier. If I weren't, it wouldn't go out the door."

After Deus described Mariusz's amplifier management system as "smart," with "quite a lot of brains in it," its designer spoke up. "The MTRX/S internal supervision system, aka State Control & Measurement system, checks multiple test points. Under no circumstance can it exceed the normal, safe, predefined operating envelope. It's protected from user errors, internal manufacturing errors, shorts, and overloads. It won't blow up speakers or take out tweeters."

The MTRS hybrid power system includes three newly designed toroidal transformers: two power the left and right output stages, and the third powers the lower voltage "stuff." In addition, there's a separate switch-mode power supply that powers the input stage. Deus describes the input stage, which was finalized after close to 40 iterations, as "the secret sauce" for the amplifier's sound.



Before signing off on the MTRS, the design team replicated every test that John Atkinson performs on amplifiers, using the same test equipment. "We addressed the 50Hz and 60Hz noise that was vibrating the transformers," Ed said. "That noise is a real pain in the butt."

Ed the contrarian next expressed his aversion to voicing and tweaking, insisting instead on the primacy of measurements. "The

3 As a former beta tester for another company and product type who once witnessed a thankfully short-lived 18"-high burst of fire and cloud of acrid smoke fill my living room, I can well appreciate Ed's care and concern.

measurements, continued

cies and 0.235 ohm at the top of the audioband. As a result, the variation in the frequency response with our standard simulated loudspeaker[2] (fig.1, gray trace) was minimal. The response into resistive loads (blue, red, cyan, magenta, and green traces) was flat in the audioband, then started to roll off above 40kHz. The wide small-signal bandwidth correlated with short risetimes in the EMM's reproduction of a 10kHz squarewave into 8 ohms (fig.2), and commendably, there wasn't any overshoot or ringing.

Channel separation was 85dB in both directions across the audioband. The unweighted, wideband signal/noise ratio, taken with the balanced input shorted to ground, was an excellent 77dB (average of both channels) ref. 1W into 8 ohms. This ratio improved to 88.7dB when the measurement bandwidth was restricted to 22Hz–22kHz, and to 91.4dB when A-weighted. This is a quiet amplifier. Spectral analysis of the low-frequency noisefloor while the EMM drove a 1kHz tone at 1Wpc into 8 ohms revealed a low random noisefloor, and while even- and odd-order harmonics of 60Hz were present, these all lay at or

2 See stereophile.com/content/real-life-measurements-page-2.

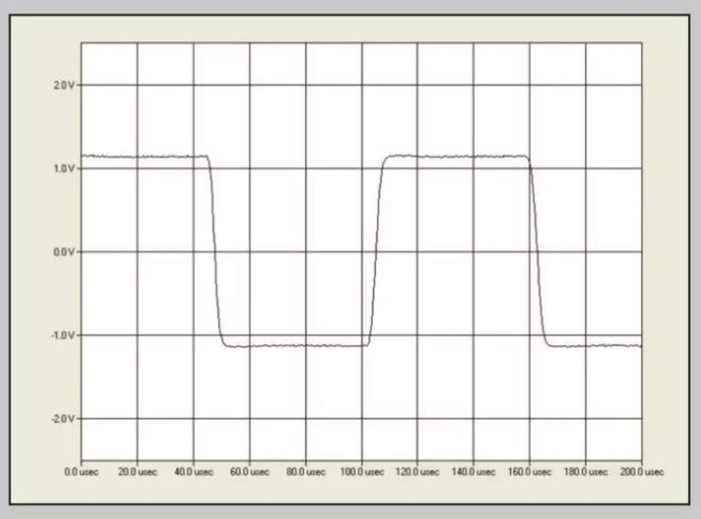


Fig.2 EMM Labs MTRS, small-signal 10kHz squarewave into 8 ohms.

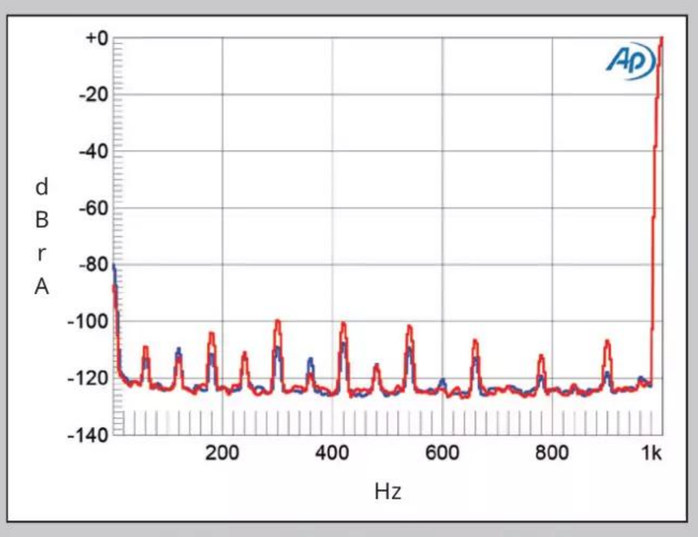


Fig.3 EMM Labs MTRS, spectrum of 1kHz sinewave, DC–1kHz, at 1Wpc into 8 ohms (left channel blue, right channel red; linear frequency scale).

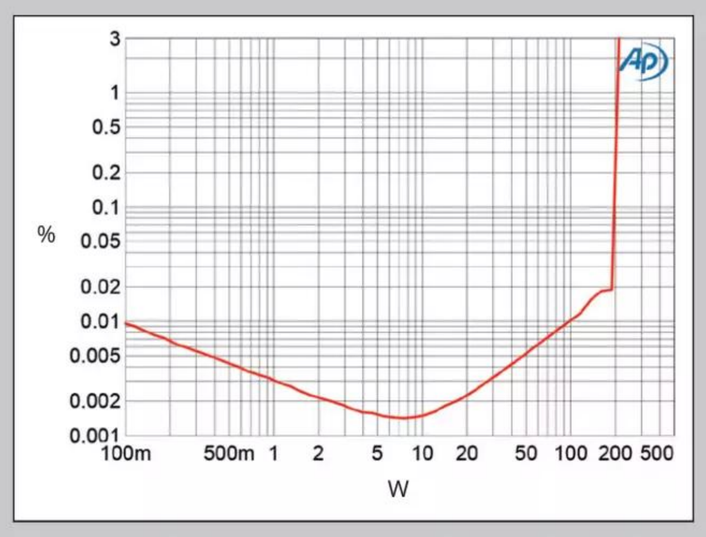


Fig.4 EMM Labs MTRS, THD+N (%) vs 1kHz continuous output power into 8 ohms.

The Sound Organisation

1009 Oakmead Drive, Arlington, TX 76011
(972) 234-0182 | support@soundorg.com
soundorg.com | soundorg.ca

measurements should be the absolute first thing," he declared. "What decides the sound? If you compare two amplifiers on the same speakers, there's a huge discrepancy in the interaction between the amps and the load of your speakers. Sound has to meet the measurement criteria. Without the measurements, there is no 'sound.'"

Nonetheless, after the MTRS (or other EMM product) reaches what Deus calls "our threshold for measurement 'hygiene,'" its circuits *do* get tuned. "We continue to work on the circuits with a combination of objective and subjective analysis until we reach our goal," he said. "That's why we created so many versions of the input stage before we were satisfied. Ed has always said that he is *not* in the music business; he is in the sound business. So, the idea of 'tuning' is open to interpretation."

"In Ed's designs, the objective part always comes first," Mariusz clarified. "It's a kind of guarantee, because very high performance on measurements will lead, eventually, or very soon, to the sound."

Can it or can't it?

The EMM website says that the MTRS, with a peak output power of 400Wpc into 4 ohms, can drive even the most severe speaker loads, down to 1 ohm. Ed, though, was ... less certain. "The speakers you have there—the Wilson Alexia Vs—are relatively inefficient," he said. "That poor amplifier is suffering. It's not compatible."

Just as I began to wonder if I should have waited to review the 1000W MTRX2 V2 monoblocks, even if they wouldn't be available for a while,[4] Mariusz attempted another quick save. "The definitive feature of all MTRX/S amplifiers is their ability to drive with ease 'difficult' loads, i.e., speaker systems with complex impedances and very low overall impedance," he insisted. "In extreme testing, they can drive 1 ohm loads with aplomb, delivering all the power required while maintaining very low levels of distortion. This stereo amp is not afraid of 1 ohm loads at all.[5]

"Under normal operating conditions, any MTRX/S amplifier will maintain low distortion levels across the entire audio spectrum. Even the distortion of a 20kHz signal at full power (which does not happen with real-life music programs) is very low. This guarantees perfect music reproduction at a very high output, which is what MTRX/S amps aim for."

There was only one way to find out. Actually, since the interview took place after I'd already done a fair amount of listening, I already knew.

Front, back, and beyond

The MTRS's "Standby/Power-Save" button is positioned inconspicuously to the right of the "EMM Labs" logo in the amplifier's black center panel. When you press it, the MTRS goes through a 5–10 second safety-check sequence before enabling full power. Under the front of the center panel, an indicator light switches from red to blue. Reflected from my stained bamboo floor, the light appeared to transition from orange to purple. Whatever the color, the illumination was unobtrusive. If it's still too bright for you, there's an "indicators off" option.

The left quarter of the rear panel contains three different logos, a "Model / Serial" plate, and an RS-232 Communication Port for diagnostics and firmware upgrades. In the larger, middle section, pairs of RCA and XLR inputs and speaker cable outputs are intelligently spaced to prevent cable crossing. The locking, easily adjusted Furutech speaker-cable connectors are a dream, clicking when connections are secure. On the top right of the rear panel sits the "main power breaker." Below is the round, 30A, 250V, three-pin, IP44, IEC 60309–type "Power Inlet," which holds the specially terminated Kimber Kable PK10 Ascent PowerKord supplied with the amplifier.

4 God and Jim Austin willing, I'd still love to review them down the line.

5 Wilson Audio claims the Alexia V's impedance dips to 2.59 ohms at 84Hz; John Atkinson measured 2.45 ohms at 85Hz. Wilson specifies the Alexia V's sensitivity as 90dB/W/m; John estimates 88.8dB/W/m. John also said the electrical phase angle is high at low frequencies and effective resistance (EPDR) drops below 2 ohms between 50Hz and 90Hz, hitting a minimum of 1.15 ohms at 66Hz. Hence, the Alexia V "needs to be matched with amplifiers that won't be fazed by low impedances, JA concluded."

measurements, continued

below –100dB (fig.3).

EMM specifies the MTRS's maximum continuous power as 330W into 4 ohms (22.18dBW), but there is no mention of the 8 ohm power in the published specifications. With the clipping power defined as being when the THD+noise reaches 1%, with both channels driven the MTRS clipped at 205W into 8 ohms (23.1dBW, fig.4) and 320W into 4 ohms (22dBW). When I examined the maximum power into 2 ohms with one channel driven, the amplifier went into standby mode at 349W (19.4dBW, fig.6). As usual, I had a portable FM radio tuned to NPR during the testing; peculiarly, the radio picked up bursts of static noise at the inflexion points in the traces in figs.4–6. Perhaps this was due to the amplifier's State Control & Measurement system.

The THD+N percentage at 12.67V, which is equivalent to 20W into 8 ohms, 40W into 4 ohms, and 80W into 2 ohms, was very low into 8 ohms (fig.7, blue and red traces), and

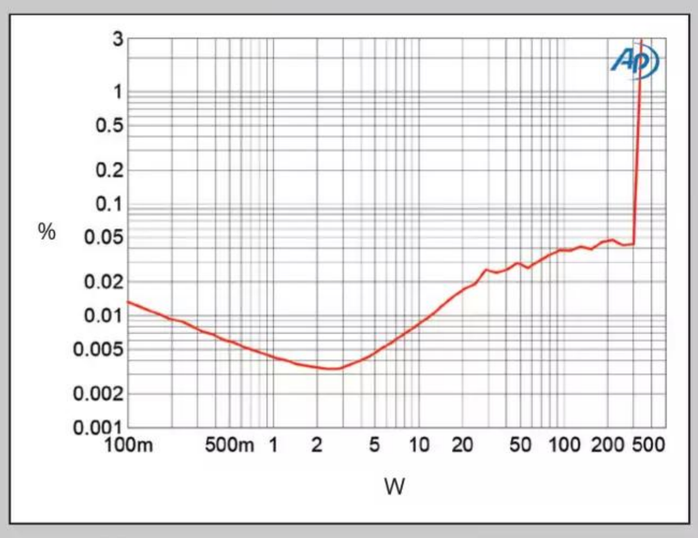


Fig.5 EMM Labs MTRS, THD+N (%) vs 1kHz continuous output power into 4 ohms.

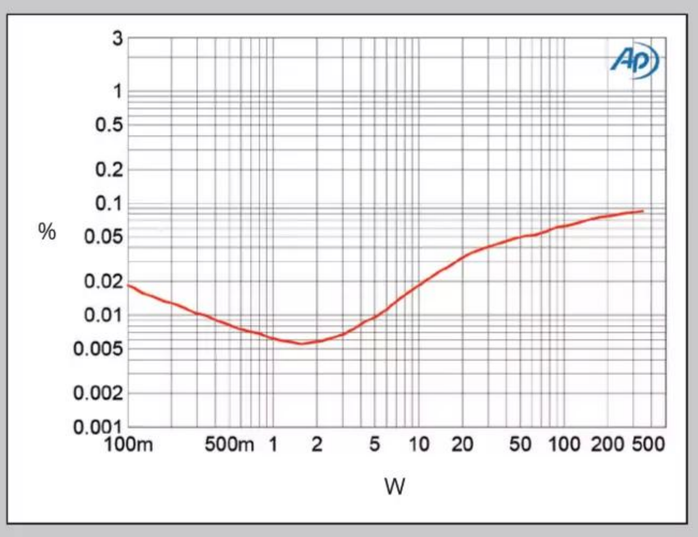


Fig.6 EMM Labs MTRS, THD+N (%) vs 1kHz continuous output power into 2 ohms.

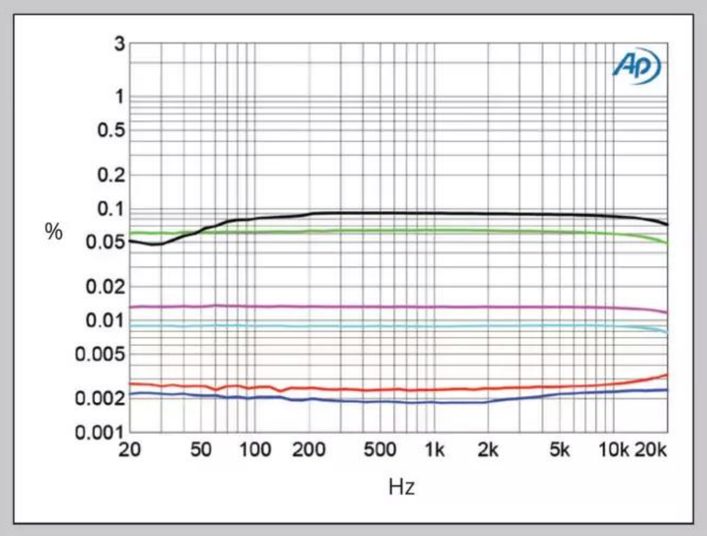


Fig.7 EMM Labs MTRS, THD+N (%) vs frequency at 12.67V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), and 2 ohms (left green, right gray).

NEW

Ferrum **ERCO** Gen **2**

ONE **MORE** THING:
the original **ERCO** can also be upgraded to Gen **2**

Closer to the Music

While **ERCO** Gen **2** looks completely identical to its predecessor, the real Ferrum magic takes place under the hood. The second generation of ERCO will bring our entry-level DAC one step closer to the music and to the performance levels of WANDLA, our flagship converter. The DSP in **ERCO** Gen **2** will equal WANDLA, including our users' most preferred WANDLA digital filter. To make things even better we managed to create an upgrade program for existing ERCO owners to bring their units to the new **ERCO** Gen **2** specifications. This means no coloration, low distortion, high dynamics, no fatigue, with a background of absolute silence.

Ferrum **ERCO** Gen **2** Headphone DAC/AMP • improved analog section • improved digital section • more DSP power • truly balanced design • proprietary IC power amp design • frequency resp. 20 Hz – 200 kHz • 6.1 W into 50 Ω (bal. mode) output power • headphone output impedance < 0.3 Ω • ESS Sabre ES9028PRO DAC chip (PMC768/DSD512) • 129dB Analog Dynamic Range • ARM optimized MQA decoder and renderer • 3 proprietary programmed digital inputs and 1 analog input • balanced (4.4 mm) and unbalanced (6.35 mm) headphone and line outputs (XLR/RCA) • 1.8 kg / 3.97 lbs • 21.7 x 20.6 x 5 cm / 8.6 x 8.1 x 2.0 inch

Check **www.ferrum.audio** for your local distributor, dealers and more information on **ERCO** Gen **2** and the Gen **2** upgrade program

The MTRS is too big for my amplifier stands, and its attached feet are too deep to engage the neutral-sounding Wilson Audio Pedestals. Hence, with more than "a little heave-ho / don't let my lower back go," onto the floor it went.

The power cable

I'd previously auditioned Kimber Kable power cables and knew that the top-level PK10 Palladian PowerKord would deliver noticeably more bass and body than the supplied midlevel PK10 Ascent. Because my reference cabling is all top-level Nordost and AudioQuest, I felt it only fair to use Kimber's top-level cord. To give the MTRS its best opportunity to shine, EMM Labs and Kimber kindly supplied me with both the PK10 Ascent *and* the PK10 Palladian.

For most of my listening, I stuck with the top-level. Whether this was the wisest choice was a question I began to ponder in the weeks ahead.

The sound

Of all the amps I've reviewed in recent memory, the MTRS immediately and continually struck me as the most honest and neutral of the lot. It neither glamorized nor warmed the sound. Every acoustic instrument sounded as I knew it to sound; every distinctive voice sounded unique and timbrally true. The inherently sweet sounded sweet; rasping rasped; emphatic exclamations resounded with force.

Music intended to tug at the heart or break it open, such as the *Adagietto* from Mahler Symphony No.5 is wont to do, did precisely that. When I played Rafael Payare and the Orchestre symphonique de Montréal's superbly recorded issue of same (24/96 FLAC download, Pentatone), every subtly sighing string left a mark on my heart. In the funeral march of the Fifth's opening movement, as trumpets and trombones blared and percussion pounded, I sat up as tall as my slowly shrinking spine and execrable posture allow. The deep bass drum near the movement's start, captured with more weight and force than on most other recordings of Mahler's Fifth, were immense—tremendous—the lower midrange fleshed out beautifully. Farther into the movement, when every instrument got going at once, every line was as clear as they can be in my room. Image corporeality—size, density, weight, impact, believability—was up there with the best I've heard through my speakers.

Some amplifiers, especially monoblocks, may deliver even blacker backgrounds than the MTRS. Monoblocks, as well, generally deliver a wider, more expansive soundstage, more breathtaking dynamic contrasts, and other features important to audio-

measurements, continued

there was only a hint of rise in the THD+N in the top octave, which implies that the MTRS has a wide open-loop bandwidth. The distortion rose across the band into 4 ohms (cyan, magenta traces) and rose higher into 2 ohms (green, gray traces).

The distortion waveform was predominantly third harmonic (fig.8), though this was accompanied by the second harmonic at a lower level (fig.9). Intermodulation distortion with an equal mix of 19 and 20kHz tones was low in level even into 4 ohms (fig.10). The second-order difference product lay at –104dB ref. 100W peak into 4 ohms (0.0006%). The higher-order products at 18kHz and 21kHz were higher in level, but these still lay close to –80dB (0.01%).

The EMM Labs MTRS's measurements indicate that it offers high powers with very low levels of noise and both harmonic and intermodulation distortion.—**John Atkinson**

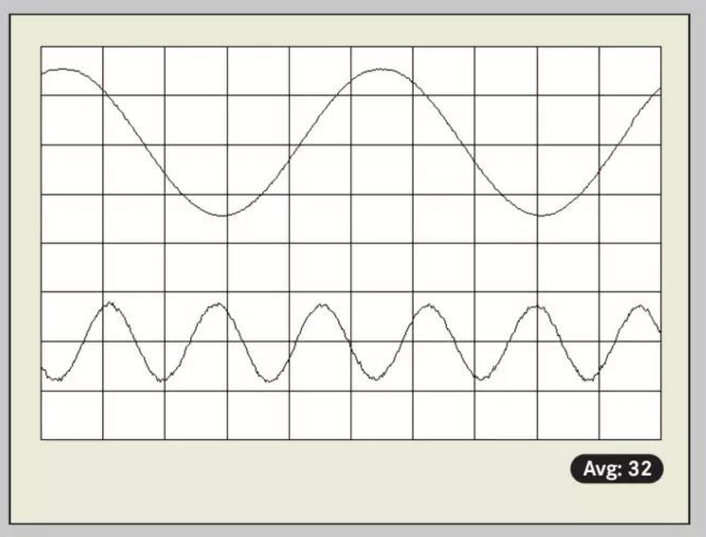


Fig.8 EMM Labs MTRS, 1kHz waveform at 20W into 8 ohms, 0.005% THD+N (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

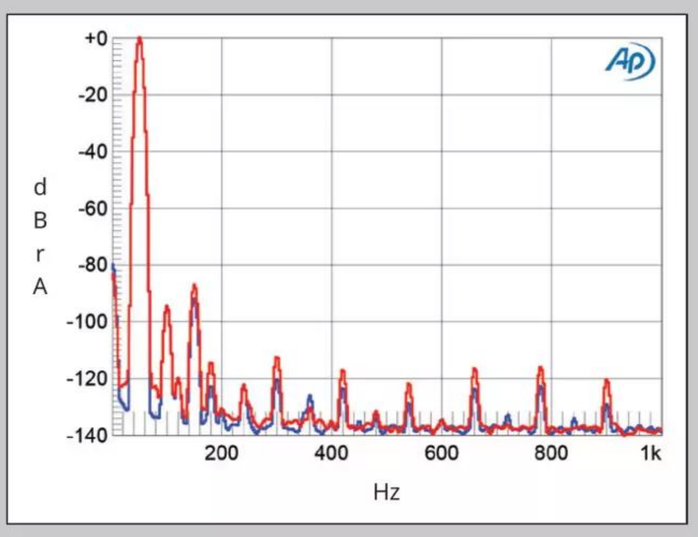


Fig.9 EMM Labs MTRS, spectrum of 50Hz sinewave, DC–1kHz, at 50Wpc into 8 ohms (left channel blue, right red; linear frequency scale).

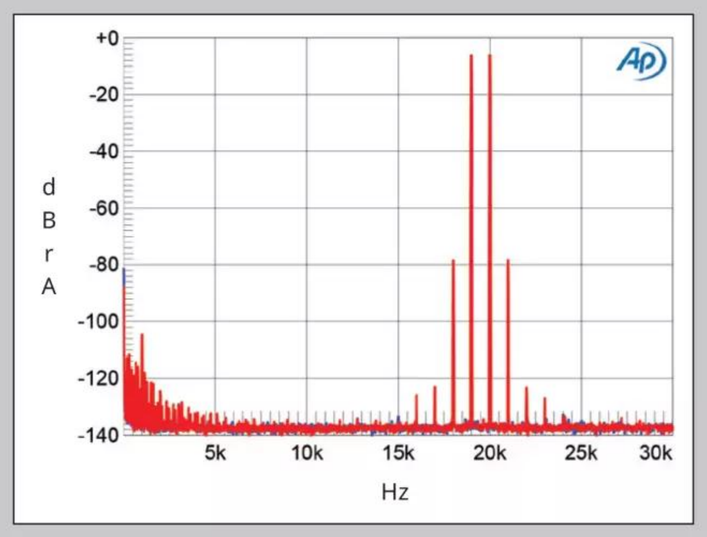


Fig.10 EMM Labs MTRS, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 100W peak into 4 ohms (left channel blue, right red; linear frequency scale).

philes. (Ed certainly knows what he's talking about in this regard.) Nonetheless, I cannot recall the last time I encountered a full-range stereo amplifier that sounded as honest, true, and faithful to recorded music as the MTRS, let alone one that satisfied me so much that I kept focusing on how good it made me feel.

Usually, I begin to take notes as soon as I install review components. Not this time. With a different power cable and a different window on musical truth, I spent the longest time listening and tuning before I knew with certainty that I was hearing the MTRS at its best.

The first listen involving notetaking was to François-Xavier Roth and Les Siècles' period instrument recording of Mahler Symphony No.4 (24/96 WAV download, Harmonia Mundi), a favored reference standby. The unique timbres of Les Siècles' marvelous period woodwinds were differentiated in all their glory. Sometimes through my livelier reference, I experience a bit more nuanced shading; here, the colors were equally satisfying and unquestionably honest. The soundstage wasn't as wide as through most monoblocks, but every musical element essential to appreciating and enjoying Roth and Mahler's achievement was there.

Friend Scott Campbell visited to play some of his latest faves. Every color on Ike Quebec's "Blue and Sentimental" (Remastered 2007/Rudy Van Gelder Edition), from the 1962 album of the same name (24/96 FLAC, Blue Note/Qobuz)—every color on every track we played from Shirley Horn's fabulous, prime-voice *Travelin' Light* (16/44.1 FLAC, Impulse!/Qobuz)—was delectable. As much as I wished that Horn's recording had been transferred and remastered in hi-rez—I love the larger and deeper presentation as well as the more saturated colors higher rez supports—I'll take artistic mastery in whatever form I can get it. I'm not sure I'd want to play Scott's next choice, Joe Jackson's "Steppin' Out," from *Steppin' Out: The Very Best of Joe Jackson* (16/44.1 FLAC, A&M/Qobuz) as regularly as virtually anything by Shirley Horn, but it sure was loads of fun.

In need of a new recording for the April record reviews and intrigued by the opportunity to explore the music of the best-known female Finnish composer of her generation, I cued up *Leiviskä: Orchestral Works Vol. 1* (24/96 WAV download, BIS), featuring three works by that composer performed by the Lahti Symphony Orchestra under Dalia Stasevska. Before me unfolded gorgeous, lush sonorities, huge and thrilling washes of colorful sound, shimmering colors, somber dissonances, an exciting and marvelously full midrange, and extremely powerful climaxes. Images of tremendous weight and solidity communicated feelings that ranged from warlike, desolate, and tragic to romantic. I was soon hooked as much by Leiviskä's music as by the EMM Labs MTRS.

After a New Year's Eve dessert party with dear friends, I returned home in an *echt*-Serinus state of mind, determined to approach midnight playing recordings of Mozart's man and wife love duet, "Bei Männern, welche Liebe fühlen," from *Die Zauberflöte*. Searching through Qobuz's offerings, I happened upon Beethoven's *7 Variations on "Bei Männern,"* performed by cellist Yo-Yo Ma and pianist Emanuel Ax on their 2021 recording, *Hope Amid Tears: Beethoven Cello Sonatas* (24/96 FLAC, Sony/Qobuz). I recall having reservations about this recording's sonics when I reviewed it in 2021. But now, thanks at least as much to the MTRS as to other improvements to my system, the cello sounded fuller and richer, the piano clear, full, and sonorous. I was transported by the music's copious delights. Sometimes a recording you thought wasn't great was just waiting for the right amplifier to reproduce it.

Fireworks were exploding all over the Olympic Peninsula, but in my music room, I sat transfixed by Qobuz streams of one of the most touching love songs ever composed for soprano, Mozart's "Deh vieni, non tardar" from *Le nozze di Figaro*. As best I can recall, I began with Kathleen Battle's lovely rendition with the Metropolitan Opera Orchestra under James Levine, from *Kathleen Battle: Mozart Opera Arias* (24/48 FLAC, Deutsche Grammophon/Qobuz), a 1985 recording. For contrast, I turned to Patrizia Ciofi's period-authentic version on the complete recording of the opera from René Jacobs and Concerto Köln (16/44.1 FLAC, Harmonia Mundi/Qobuz). Not only did the MTRS take to the soprano voice quicker than a duck takes to water; it also sounded far more attractive (than a duck, that is. In writing this, I realize that I shall heretofore be criticized by the Great Lakes Chapter of the National Association of Duck Lovers and their Honking Friends.)

My big discovery of the New Year was Dawn Upshaw's fetching rendition of "Deh vieni..." from another complete recording of the opera, again performed by the Metropolitan Opera Orchestra under James Levine (16/44.1 FLAC, Deutsche Grammophon/Qobuz), in 1991. Decades ago, I listened on the car radio unimpressed as Upshaw performed the aria live from the Met, but here, on a recording issued a mere 33 years ago, I could appreciate all aspects of her charm, sincerity, innocence, and vocal beauty. When she interpolated a flawless high D near the aria's end, I was in heaven. Bravo Dawn, and bravo MTRS.

ASSOCIATED EQUIPMENT

Digital sources dCS Vivaldi Apex DAC, Vivaldi Upsampler Plus, and Vivaldi Master Clock; EMM Labs DV2 Integrated DAC; Innuos Statement Next-Gen Music Server; Small Green Computer Sonore Deluxe opticalModule; Uptone Audio EtherRegen with SOtM sCLK-OCX10 Master Clock and sPS-500 power supply; Nordost QNet switch and QSource linear power supplies (2); Sonore Audiophile Linear Power Supply; Synology 5-bay 1019+ NAS with Ferrum HYPSOS linear/switching hybrid power supply; Linksys MR9000 mesh router and Arris modem; Apple 2023 iPad Pro and 2017 MacBook Pro laptop with 2.8GHz Intel i7, SSD, 16GB RAM.
Preamplifier Dan D'Agostino Momentum HD.
Power amplifiers Dan D'Agostino Momentum M400 MxV monoblocks.
Loudspeakers Wilson Audio Specialties Alexia V with Lōkē subwoofers.
Cables Digital: Nordost Odin 1, Odin 2, and Valhalla 2 (USB and Ethernet), Frey 2 (USB adapter); AudioQuest WEL Signature; Wireworld Platinum Starlight Cat8 (Ethernet), OM1 62.5/125 multimode duplex (fiberoptic). Interconnect (XLR): Nordost Odin 2 and Blue Heaven subwoofer, AudioQuest Dragon, Canare (subwoofers). Speaker: Nordost Odin 2, AudioQuest Dragon. AC: Nordost Odin 2, Valhalla 2, Valhalla 1; AudioQuest Dragon and Firebird. Umbilical cords: Ghent Audio Canare on NAS; QSource Premium DC cables with Lemo terminations for QSources; SOtM sPS-500 umbilical cable for SOtM Master clock.
Accessories Grand Prix Monza 8-shelf double rack and amp stands, 1.5" Formula platform; Symposium Ultra Platform; Nordost 20A QB8 Mark III, QKore 1 and 6; Titanium and Bronze Sort Kones, Sort Lifts; Stromtank S 2500 Quantum MK II power generator, SEQ-5 Audio Distribution Bar; AudioQuest Niagara 7000 and 5000 power conditioners, NRG Edison outlets, Jitter-Bugs; Environmental Potentials EP2050EE surge protector/filter; Wilson Audio Pedestals; A/V RoomService Polyflex Diffusers; Resolution Acoustics room treatment; Stillpoints Clouds (8); HRS DPX-14545 Damping Plates; Marigo Aida CD mat.
Dedicated listening room 20' L × 16' W × 9'4" H.
—Jason Victor Serinus

My last listening session was with Gary Forbes, a friend with a very different, constantly rotating playlist. First came "Go Easy, Kid" by a woman he'd heard recently in Seattle: Monica Martin, in duet with James Blake (24/48 FLAC, Things We Like Records/Qobuz).[6] The sound was clear, smooth, and beautiful, and I could not resist the song's final line: "and said, f*ck it, it's only rock'n'roll." Hooked on Martin's voice—I'm currently replaying the song on my desktop system and loving how she rises an octave for the final bars—Gary and I headed to her "Show Me," another track with Blake, this one from his album *Friends That Break Your Heart* (16/44.1 FLAC, Polydor/Qobuz). The MTRS rendered the recording's spatial effects superbly. Said Gary, "On your system, I've heard things on this track I've never heard before."

Next came music from Ranky Tanky, Carsie Blanton, and René Marie (Gary's vocal teacher at the last Centrum jazz camp in Port Townsend). Then, from Joni Mitchell, several tracks from *Mingus* (24/192 FLAC, Rhino-Elektra/Qobuz). "I bought that album on LP more than 50 years ago," Gary said. "I've been waiting decades to hear it sound like this."

Finally, we listened to Joni's second recording of "Both Sides Now" with symphonic accompaniment plus Wayne Shorter on soprano and tenor saxophones and many others, arranged and conducted by Vince Mendoza (24/96 FLAC, Rhino-Warner/Qobuz). As heart-burstingly profound as the performance may be, and as superb as its midrange sounded through the MTRS, we were both surprised to hear flabbiness in the bass. Gary, who is a bass player with deep knowledge of bass-frequency sounds, declared, "You must have a major bass node at 73Hz."[7]

Hmmm. According to the extremely detailed and thorough acoustic analysis that Norman Varney of A/V RoomService performed on my room earlier in 2023, I have a major dip at 56.3Hz and a corresponding rise that peaks around 68Hz.[8] Close enough. But I hadn't heard so much bass boom in my room since the Alexia Vs arrived. Had I discovered a weakness in the MTRS's otherwise five-star presentation?

A return to Leiviskä's orchestral music and Payare's Mahler Symphony No.5 also confirmed bass flabbiness around 68–77Hz. It thus became clear that the flabbiness wasn't caused by the MTRS. Rather, the MTRS was transmitting more bass through my speakers than I was accustomed to. That weightier bass exacerbated the consequences of that pesky room node.

Conclusion

The EMM Labs MTRS is the finest, most musically complete stereo amp I've reviewed to date. As much as the word "neutrality" come to mind, it falls short as a descriptor of sound as honest, true, thrilling, heart-warming, and emotionally rewarding as the MTRS's.

The MTRS is a must-audition for any music lover with the space and budget to give it a home. Hey, even if you don't have the bucks to buy one, give it a listen. If you don't, you'll miss out on experiencing the significance of Ed Meitner's accomplishment and the greatness of his team's achievement. ■

6 "Go Easy, Kid" was released by Martin as a single in 2021 and then, in the duet with Blake, in 2022, also as a single. I wasn't able to locate a Martin-Blake version on Qobuz or Tidal, but it *is* on Apple Music and Spotify, and a live-in-studio recording of the piece (with Martin and Blake) is on YouTube at youtu.be/3G4T6L7tm4I?si=BUWW8TLcfvtUdV_m.

7 If you want to diagnose a room node near this frequency, you could hardly do better than this track. I checked it out in my room. The piece is—I'll venture, despite the fact that my musical experience is decades old—in the key of D, and there's an endlessly repeated, very prominent D2 in the bass, played, very likely, by the whole bass section of this small orchestra. Suffice to say, apart from any bass mode, bass on this track is hardly well-resolved.—**Jim Austin**

8 I've made some changes to my room and equipment since Norm's visit that may have offset some of those bass anomalies.

TAD

TECHNICAL AUDIO DEVICES LABORATORIES, INC.

"...the finest example of speaker engineering I've ever encountered. Absolutely Class A."
Herb Reichert, Stereophile

PAD HiFi
DISTRIBUTION
info@PadHiFi.com
(877) 223-8858

Close your eyes...

You are there...

Anne Bisson

VAC

Always handcrafted in the USA

Contact us for the name of your nearest VAC dealer.

Valve Amplification Company **www.vac-amps.com**

Jean-Francois La Forge Photographe

©2023 Valve Amplification Company, Inc. VAC power amplifiers are protected by US Patent 8,749,310. International patents pending.

MARTIN COLLOMS

Thrax Audio Siren

LOUDSPEAKER

Based in Bulgaria, European audio company Thrax has been active since 2009. Their ingenious and varied design approaches seen over several product lines have continued to intrigue me with their conceptual originality, innate musicality, and imaginative use of a broad spectrum of technologies. Their products range from valve (tube) amplification to digital audio and, more recently, loudspeakers. There are 16 products in the Thrax range.

Thrax founder and chief engineer Rumen Artarski packs a capacious scientific kitbag. His love of music and fine sound reproduction is self-evident. In the disputes that sometimes occur between measuring and listening, Rumen says, decisions made by the ear are final.

Writing for *HiFiCritic* in 2012, I supported Chris Bryant's evaluation of the all-tube Thrax Spartacus, a 40Wpc triode-based power amp. In 2014, Bryant examined the all-triode Orpheus phono preamp.[1] You could say that we—Bryant and I—were both pretty much solid state diehards, even though we'd both enjoyed good experiences with tube designs over the years. In both the 2012 and 2014 reviews, we described how we were shaken up by these two thermionic designs, whose purist tube technology had been finessed using advanced electronic design principles to deliver a winning combination of tonal accuracy and transparency with the dynamics and musicality of low-feedback triode circuitry. We knew then that Artarski's Thrax was a force to be reckoned with. The range of distinctive high-end electronics has continued to expand to include a loudspeaker, the standmount Lyra, now joined by the smaller Siren ($13,600/pair), also a standmount and the subject of this *Stereophile* review.

1 *HiFiCritic*: Spartacus: Oct–December 2014; Orpheus Jan–Mar 2015 Vol.6 No.4.

SPECIFICATIONS

Description Two-way, reflex-loaded standmount loudspeaker. Driver complement: custom ring-diaphragm compression tweeter loaded with a proprietary ultrashort horn with shaped directivity; ultralow-distortion Purifi midwoofer. Crossover: Sealed and potted, with wax-impregnated foil-wound inductors and capacitors with silver lead-out wires. Aeco binding posts. Frequency response: 36Hz–20kHz (–3dB). Nominal impedance: 4 ohms. Sensitivity: 87dB/2.83V/m, measured at 2W into 4 ohms. Power handling: 250W max, 25W min.
Dimensions 13.4" H × 8.3" W × 13.4" D. Weight: 44lb (20kg).
Finish Milled aluminum and black leather.
Serial numbers of units reviewed 21117, 21118 (auditioning), 21123 (measuring). Manufactured in Sofia, Bulgaria.
Price $13,600/pair in standard finish, without stands. Number of US dealers: 4. US warranty: 2 years. Warranty and out-of-warranty service carried out at an authorized service center in Mundelein, Illinois.
Manufacturer
Thrax Audio,
Bul. Kopenhagen, BL. 289,
Druzhba 2, Sofia, Bulgaria.
Tel: +359 2 988 9555.
US distributor
High End by Oz, Greenmount Dr., Woodbridge, VA 22193 USA.
Tel: (424) 344-0011.
Web: highendbyoz.com.

Technology and engineering

Weighing a substantial 44lb (20kg), this standmount two-way marries an exotic, costly 6.5" (170mm) midwoofer to an unusual, semi-elliptical (biradial) horn of significant size. The horn "compression loads" a small, application-specific high-frequency driver, a 1" (25mm) ring-diaphragm design from pro audio specialist BMS.

Under the leather-covered central section, the construction is birch plywood reinforced by a cross brace. The walls of the 16 liter enclosure are not perfectly damped, but a knuckle rap is rapidly dissipated. Those substantial front and rear sections are milled from solid billet aluminum alloy. Fourteen stainless steel socket head bolts attach the rear panel. A filling of natural sheep's wool damps internal reflections. Artarski notes that the box/port system is tuned at 40Hz, with typical in-room extension to 33Hz at normal listening levels. The port's rear panel exit is mildly flared to reduce port noise at high air velocities.

Thrax prefers series topology for its crossovers, which is a little more awkward to implement than the more commonly used parallel form. In some designs, a series crossover may offer better acoustical blending of the driver outputs; simulation software has made the design task easier. As ever, crossover filter design is an interactive process involving theory and measurement, and must be partnered by meticulous listening.

Jantzen, a noted Danish manufacturer of audiophile-grade parts, was chosen to supply the costly Siren crossover components including three "zero saturation" wax-impregnated copper-foil, air-core inductors (no magnetic core to saturate!), plus several exotic film-and-foil capacitors[2] in each channel. The capacitors in the tweeter feed are the "Silver" type and enjoy pure silver lead-out wires. The whole crossover assembly is "sealed and potted" to damp vibrational disturbances from working drivers.

The horn is very efficient and imparts an unusually high intrinsic input impedance, which could otherwise add a trace of high-frequency excess with some tube amplifiers. So, an RC impedance-matching network placed at the input terminals helps maintain tonal balance when the Siren is used with tube amplifiers with high output impedance.

The Siren is single-wired with Aeco gold-plated copper alloy binding posts with 4mm plug, spade, and bare-wire connectivity. The DC input resistance measured precisely 4 ohms, a fair estimate of the "nominal" amplifier loading.

The deep-profiled custom flare of the BMS tweeter's horn was designed by Spherovox using electroacoustic modeling software. It blends seamlessly into the deeply milled solid alloy plate of the

2 Not the usual metalized plastic film.

MEASURING THE DRIVERS

Considered as a sequence of sounds over time, audio energizes a room with a complex jumble of fundamental tones and thousands of harmonics, augmented by room reflections and longer-term reverberation. This sounds like a recipe for aural confusion, but we learn instinctively from earliest childhood to distinguish direct sound from a source, person, or loudspeaker from the reverberant field. Without that skill, stereo perception in rooms would be impossible.

Audio listeners are accustomed to moderate amounts of distortion from a loudspeaker, usually low-order and generally innocuous. At higher sound levels, such errors are often masked by natural distortions present in our hearing process, to which we are more or less acclimatized.

Extant loudspeaker technologies promise lower distortion than the ubiquitous moving coil varieties, for example, ribbon, pseudo-ribbon, and electrostatic types. Full-size, high-efficiency horn designs typically employ a moving coil driver where the acoustically loaded sound-producing element needs to move very little, helping to minimize distortion. Frequently, the best of these technologies are capable of expressive musical dynamics that better convey the stunning excitement of live sound, although some also exhibit their own audible signatures and characteristic colorations.

This Purifi driver may well be immune from such considerations. Its midband third harmonic is claimed to average –76dB, or 0.015%, a very low level. I was interested to see whether I could hear the claimed quality differences, with its promised control of distortion at sensible but still useful loudness levels.

I made a few spot measurements on the Siren, primarily to make sure all was working as intended. I noted a slightly below average (and very slightly below spec) 86.5dB sensitivity with a nominal 2.83V input at 1m. I also saw useful indications of a particularly uniform frequency response: Over the crucial central region, 200Hz–2kHz, it held to a very close ±2dB tolerance, well extended to 22kHz, –3dB, though with a steep falloff beyond. The heard and measured off-axis response was also promising. We'll see what JA finds.

And what about distortion, bass to midrange? Purifi's ambitious claims of exceptionally low distortion do seem credible. Where most loudspeakers measure 0.2%–0.4% distortion at accepted listening levels—say, 85 to 95dB/2.83V/m—this Purifi driver measures only a tenth that (–20dB) or even less. What's more, this modestly dimensioned midwoofer was able to sustain a continuous sinewave up to 25W at 50Hz before entering mechanical overload, a comparatively massive power input. Here I noted some moderate second harmonic distortion but very little third—an important result since third is more discordant and thus more disturbing of timbre than second.

With a subjectively loud 1W, 500Hz sinewave, a dominant region of acoustic power not far removed from middle C, second harmonic distortion was low at 0.12% while the more important (more strident) third harmonic was well down at 0.011%, or –79dB, with no higher harmonics. At 2kHz, 2.83V, the second harmonic was at just 0.03% while third was 0.01%, exceptionally low for a mid/bass driver. No other artifacts were present with this signal even at my 0.003%, –90dB measurement threshold.

Could the Thrax horn tweeter match this exceptional midrange linearity? At 5kHz, a trace of harmless 10kHz second harmonic was found at 0.12%, while the potentially more annoying third harmonic was well below audibility at just 0.07%. Distortion continued to decrease substantially with decreasing power. 1V, 5kHz sounds quite loud in the room, and here, the second harmonic was a minuscule 0.013% with no other products present.

Plainly, these two drivers complement each other. For a typical midband spectral power maximum of 500Hz, the second harmonic from the mid/bass unit was truly exceptional, just 0.05% with no other artifacts of relevance. I suspect I heard this absence of distortion in the exceptional midrange transparency and natural timbre observed at normal loudness.

Some of these results are indeed superior to a number of good power amplifiers. I could not hear acoustic overload at any sensible volume level save in the low bass, and then only if I assaulted the Siren with heavy solo bass guitar below 45Hz, leading to some mild port noise.—**Martin Colloms**

Don't Go Round and Round

DETERMINE YOUR DESTINATION

PLAN YOUR HIFI JOURNEY

GREAT SOUND AWAITS!

System Advice — New & Pre-Owned — Setup and Installation

audioultra

Trusted by Our World Class Audio Partners

audio-ultra.com | 253-321-3204 | info@audio-ultra.com

FELIKS-AUDIO

Based in Lubliniec, Poland, Feliks Audio is a boutique, family-owned manufacturer of handcrafted OTL tube headphone amps and a reference 300B SET speaker amp, all famed for their natural tonal balance and handsome aesthetic.

ENVY

FLAGSHIP HEADPHONE AMPLIFIER

"The Feliks Audio Envy headphone amplifier is a masterpiece. For those of you who have not heard what 300B triodes can do to audiophile sound, you don't know what you have been missing."

- JOHN JOHNSON, SECRETS OF HOME THEATER AND HIFI

EUFORIA EVO
HEADPHONE AMPLIFIER

ELISE MKII
HEADPHONE AMPLIFIER

EXCLUSIVE DISTRIBUTION IN NORTH AMERICA BY HARMONIA DISTRIBUTION. DEALER INQUIRIES WELCOME. HARMONIADISTRIBUTION.COM

front baffle. The biradial transition is smoothly rendered and affords wider-than-usual horizontal directivity at higher frequencies. The driver element itself will never need to work hard, in view of its sensitivity: an exceptionally high 112dB/2.83V/m. That's some 25dB greater than the sensitivity of the completed Siren system (specified as 87dB/2.83V/m). Worked so lightly, it should remain free from compression overload at all sensible sound powers. It should also display low distortion and very good subjective dynamics and be free of dynamic sensitivity variations; some lower-sensitivity direct radiators, which draw more power, can compress due to thermal cycling during loud passages.

Partnering that custom horn is a 170mm, 6.5" midwoofer sourced from European "new-tech" company Purifi, affiliated with Bruno Putzeys of class-D amplifier and high-oversampling DAC fame. Purifi was founded in Denmark in 2019 by Putzeys and Lars Risbo with long-established audio entrepreneur Peter Lyngdorf. They spent several years on primary research. This Purifi driver has an unusual and highly distinctive cone design, with a circumferential brace and central reinforcement, while the assembly is supported on a distinctive, aggressive-looking, sectionally corrugated surround (see sidebar on p.124). This long-throw design incorporates an ultralinear moving coil motor system with deep excursion. The cone is fitted with a huge, sophisticated motor system built on a free-breathing die-cast alloy chassis. Purifi claims exceptionally low distortion, outstanding power handling, and a very low incidence of the usual menu of coloration-inducing mechanical misbehaviors. The driver's linearity and distortion are claimed to measure more like a good amplifier than a deep-excursion, spring force–limited, oscillating mechanical piston. It is easy to imagine the Purifi team planning their attack on the primary moving coil driver issues, then relentlessly advancing on less well-known problems, the process continuing to a practical vanishing point. Such complexity does not come cheap, as the Purifi driver costs perhaps four times as much as typically favored contenders.

The Purifi engineers have developed comprehensive mathematical models to simulate the key components of a drive-unit: the motor, inner suspension, cone, and surround suspension. Close examination of the motor section led to new insights about coil and magnet geometry, the selection of ferromagnetic materials, and their detailed configuration. Such complex mechanico-acoustic models allowed the engineers to analyze and control issues that previously were inexorably intertwined, facilitating the optimization of each source of error. Purifi addressed distortion of all kinds arising from normal cone movement, in combination with excursion limiting so that the driver cannot easily be overloaded in the bass. The surround/suspension geometry is configured to radiate as little as possible, minimizing its unwanted (distorted) contribution. More subtle errors such as hysteresis distortion have been suppressed. There is no

MEASUREMENTS

As the schedule didn't allow sufficient time for Martin Colloms's pair of Thrax Sirens to be shipped to me for measurements, Thrax arranged for a different loudspeaker to be sent from their factory in Bulgaria. This sample had the serial number 211123. I used DRA Labs' MLSSA system with a calibrated DPA 4006 microphone to measure the speaker's behavior in the farfield and an Earthworks QTC-40 mike for the nearfield responses.

According to the manual, the Siren "is best heard with the tweeters at, or just below, ear height." I therefore started by examining the farfield frequency response on the tweeter axis and immediately ran into a problem. This sample had a severe suckout centered on 2.7kHz in its tweeter-axis response, while MC's measurements indicated that his Sirens didn't have this suckout. The loudspeaker's step response indicated that both drive units were connected in positive acoustic polarity, so I asked Thrax designer Rumen Artarski via email what the correct polarities should be. "The bass unit is 'normal' phase, meaning the cone will move outwards with a positive voltage on the red connector. For the tweeter it is the opposite," he responded. My sample must therefore have had its tweeter miswired at the factory. I removed the Siren's rear panel and internal stuffing and rewired its tweeter in the correct inverted polarity. (Much easier to write than do.)

I looked first at the repaired speaker's sensitivity. My B-weighted estimate was a little lower than the specified 87dB/2.83V/m, at 85.6dB(B)/2.83V/m. (MC also estimated the sensitivity; his estimate was slightly higher than mine, at 86.5dB.) The speaker's impedance is specified as 4 ohms. My sample's impedance magnitude (fig.1, solid trace), examined with Dayton Audio's DATS V2 system, lay between 4 ohms and 5.4 ohms for almost the entire audioband. While the minimum value is 4 ohms at 175Hz, the electrical phase angle (fig.1, dotted trace) is high in the bass and lower midrange, which will have an effect on the equivalent peak dissipation resistance, or EPDR.[1] This lies below 3 ohms from 69Hz to 215Hz, with a minimum value of 1.76 ohms at 108Hz. Recorded music can

1 EPDR is the resistive load that gives rise to the same peak dissipation in an amplifier's output devices as the loudspeaker. See "Audio Power Amplifiers for Loudspeaker Loads," *JAES*, Vol.42 No.9, September 1994, and stereophile.com/reference/707heavy/index.html.

Stereophile Thrax Siren Impedance (ohms) & Phase (deg) vs Frequency (Hz)

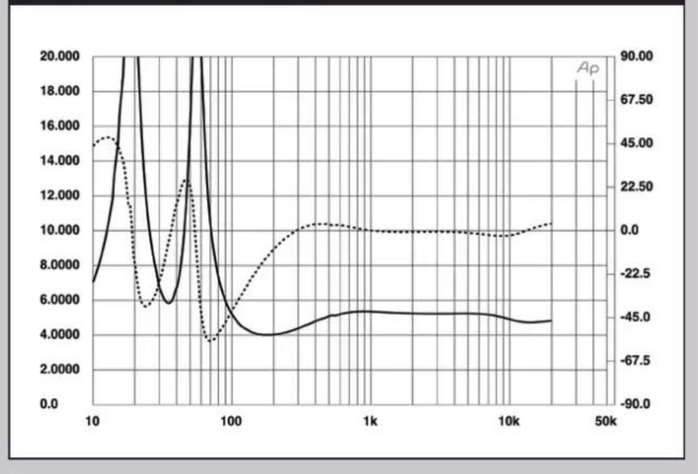
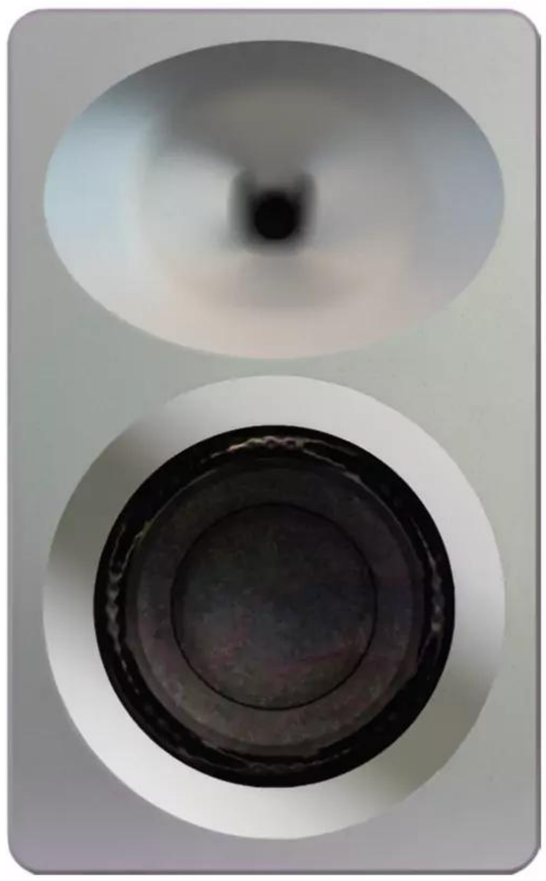


Fig.1 Thrax Siren, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

magic bullet but rather a systematic grinding down of well-known problems to a lowered baseline.

Typical moving coil drive units suffer 0.25% to 0.5% distortion at average sound levels, with better examples aiming for 0.15%; Purifi is aiming for a massive, 10–20dB reduction to just 0.05%, including intermodulation products. Over the important midband, the potentially whiney-sounding third harmonic reads just –76dB—0.015%, which is a remarkable achievement.

But how will this all fit together? Overall sound quality should be improved right away. The most obvious, immediate benefit would be an order of magnitude gain in clean bass power for drivers of this size.



Siren's song

After a few days' warm-up following a deep chill during their cross-Europe transit, and following trials with stands and placement, the Sirens were put to the test. At first hearing they proved to be well-balanced frequency-wise and not too critical of position. As expected, the best stereo imaging was with the speakers placed in a free-space location. Positioned about 6' apart, 4' to each sidewall, 4' 6" from the front wall, and 4' from my seat, they were toed in just enough that I could see down the inner sides of the enclosures. While optimal, this set up was not exacting: The fine imaging and overall quality proved relatively uncritical of their precise location.

At first, nothing in particular stood out; no special character drew my attention. This was, in a sense, very promising, suggesting that the primary sound characteristics were in balance. Gradually I became aware of something special about them, firstly in the high frequency range. What I heard here did not sound like a tweeter of the usual kind; indeed, it was not aurally identifiable as a working mechanism but rather an open window into recordings. It's hard to explain. It sounded as if the tweeter was not present as a distinguish-

measurements, continued

have high energy in this region, meaning that the Siren is a demanding load for the partnering amplifier.

The impedance traces are free from the discontinuities in the midrange that would imply the presence of cabinet resonances, and the enclosure's panels did seem well-damped when I rapped them with my knuckles. Using a plastic-tape accelerometer, I found a single high-Q, low-level mode at 480Hz on the top and side panels (fig.2) and an even lower-level mode at 535Hz on the aluminum rear panel. It is safe to say that these modes will have no effect on sound quality.

The saddle centered on 36Hz lying between two low-frequency peaks in the impedance magnitude trace suggests that this is the tuning frequency of the Siren's reflex port. Measured in the nearfield, the woofer's response (fig.3, blue trace) has the expected minimum-motion notch at that frequency, the point at which the back pressure from the port resonance holds the diaphragm stationary. The port's nearfield response (red trace) peaks between 25Hz and 60Hz, in textbook fashion. Its upper-frequency rolloff is clean, with some low-level peaks between 400Hz and 900Hz. The low level of these peaks and the fact that the port fires to the speaker's rear will mitigate any audible consequences.

The complex sum of the Thrax's woofer and port outputs (fig.3, black trace below 312Hz) doesn't have the usual boost in the bass due to the nearfield measurement technique, which assumes that the drive units are placed on a baffle that extends to infinity in both vertical and horizontal planes. The Siren offers excellent low-frequency extension for a relatively small speaker, with an overdamped alignment.

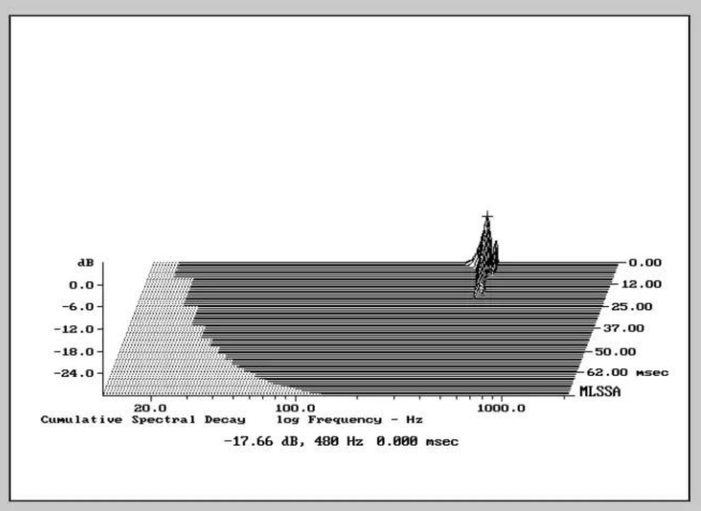


Fig.2 Thrax Siren, cumulative spectral-decay plot calculated from output of accelerometer fastened to the center of the side panel (measurement bandwidth, 2kHz).

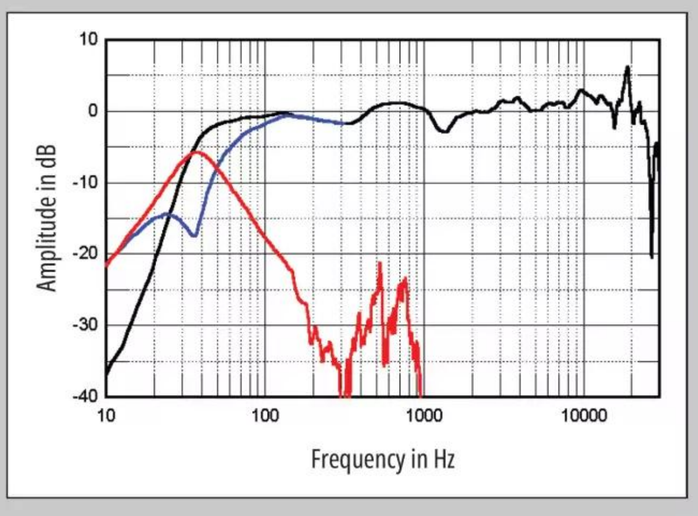


Fig.3 Thrax Siren, anechoic response on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with the nearfield woofer (blue) and port (red) responses, and their complex sum (black), respectively plotted below 312Hz, 900Hz, and 312Hz.

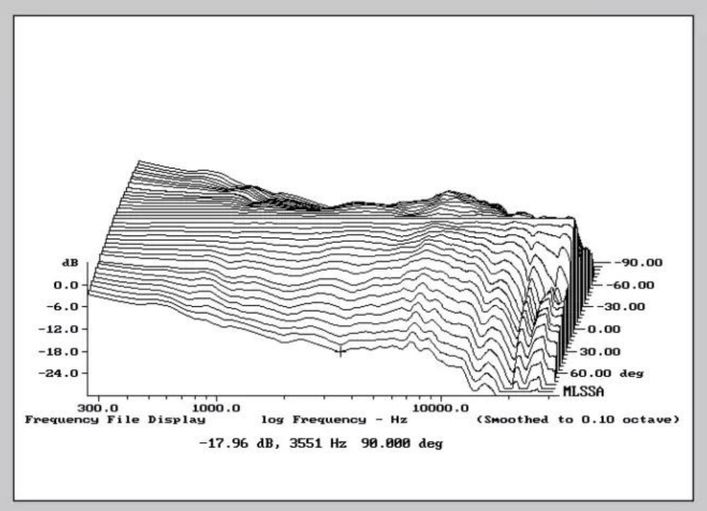


Fig.4 Thrax Siren, lateral response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90°–5° off axis, reference response, differences in response 5°–90° off axis.

dCS
ONLY THE MUSIC

LINA 2.0

Over the past 12 months, we've released several performance upgrades and new features for dCS owners. We delivered a major firmware upgrade for the dCS Bartók and launched the next generation Bartók APEX. We also added digital volume control and volume lock to the dCS Lina Network DAC, allowing listeners to use the DAC as a pre-amplifier in two-channel audio setups.

The Lina Network DAC 2.0 update brings several new features that are designed to enhance performance, aid ease of use, and give listeners more control over their playback experience.

It is available to new and existing Lina Network DAC owners and is provided free of charge.

Supporting streamed and wired digital sources up to 384kHz/DSD128, the Lina DAC is the beating heart of the system, and employs dCS's proven Ring DAC technology to bring music to life with remarkable clarity and detail—while perseving your music's organic beauty.

Now available in silver.

Pictured: Lina DAC (top), optional Master Clock (bottom)

dCSonlythemusic

able entity but rather a blended extension of the fine midrange.

With further exploration of familiar program, it became clear that the treble range was delicately resolved, very detailed, and natural. While almost self-effacing, it possessed exceptional expressiveness combined with subtle dynamic nuance. When I concentrated further I also heard beguiling immediacy with enchanting microdetail and exceptional transparency. There was no detectable "horn" coloration. The delicate tactility on offer reached beyond those many excellent Heil-type folded ribbons (AMTs) while offering wide distribution in all planes. Off-axis room reverberation sounded highly neutral. The more I listened, the more convincing the Siren's high-frequency performance became. Miles Davis's horn can be an issue with many loudspeakers; an awkward-sounding speaker with some amplification renders that tuneful, expressive trumpet dynamic more like a shriek. But not the Siren, which brings trumpet and alto sax recordings convincingly to life. Davis's *Tutu*, an early digital recording auditioned on CD (Warner Brothers Records 925 490-2), may sound strident, but not with the Siren. Here, Miles fairly blazed on the title track,

dynamic, expressive, full of fire supported by punchy baselines and a generous acoustic.

What about the mids? On first hearing, they seemed somewhat reserved. After some days of listening, they began to catch up with the high frequencies. What at first seemed a mildly recessed quality was progressively dispelled; the midrange blossomed, revealing a broadly balanced and natural richness imbued with much microdetail and growing transparency. And there was no hint of midrange cone "shout."

When first installed, the heavy steel-chip loaded, ridged-base stands were stably planted on the plain carpet without spikes, mechanically engaging the floor through sheer mass. I thought I'd got fairly close to the Siren's potential, but I was proven dead wrong.

Moving to full spiking was close to revelatory. At the first note, I almost fell out of my chair; I would swear to a 30% improvement. The magnitude of that jump, to full-bore, high-end resolution, image depth, and convincing dynamics, guaranteed I just couldn't stop listening. I was driven to get up and turn down the lights to better savor the enchantment. The low-distortion aspect of this

measurements, continued

The black trace above 312Hz in fig.3 shows the Thrax's farfield output averaged across a 30° horizontal window centered on the tweeter axis. There is a slight excess of energy in the upper midrange and a small suckout just above 1kHz, but the response is otherwise even. The speaker's output rolls off rapidly above the small peak at 19kHz.

The Siren's radiation pattern on the tweeter axis (fig.4) is well-controlled, which implies stable, well-defined stereo imaging. As usual with a horn-loaded tweeter, the top-octave output starts to roll off at angles higher than 15° to the speaker's sides. In the vertical plane (fig.5), the tweeter-axis response is maintained 5° above the tweeter axis, as suggested by Rumen Artarski. A large suckout develops at 2.7kHz more than 10° below the tweeter axis and 15° above it.

In the time domain, the corrected Siren's step response (fig.6) indicates that the woofer is connected in positive acoustic polarity; the tweeter's output is now in inverted polarity. The start of the woofer's positive-going step arrives first at the microphone, followed by the start of the tweeter's negative-going step. The positive-going overshoot of the tweeter's step has a much higher amplitude than the start of its step, which nicely overlays the woofer's step.

The Thrax's cumulative spectral-decay, or waterfall, plot (fig.7) is perhaps the cleanest in the midrange and low-mid treble I have ever found!

With its very quiet enclosure, relatively even frequency response, extended, articulate lows, well-controlled horizontal dispersion, and that extraordinarily clean waterfall plot, the Thrax Siren's measured behavior is exemplary.—**John Atkinson**

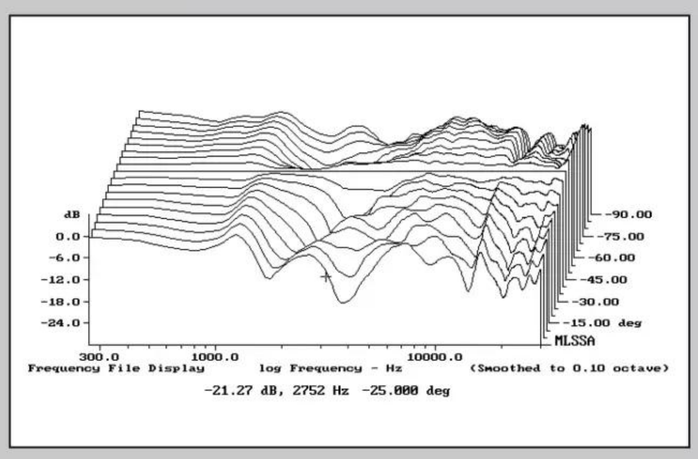


Fig.5 Thrax Siren, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 45°–5° above axis, reference response, differences in response 5°–45° below axis.

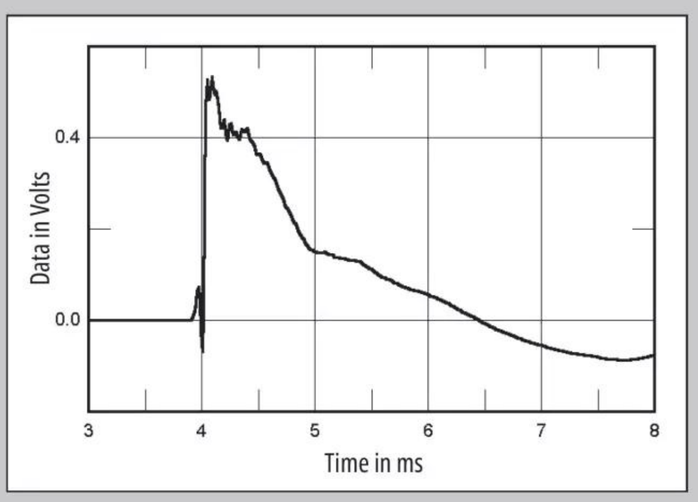


Fig.6 Thrax Siren, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

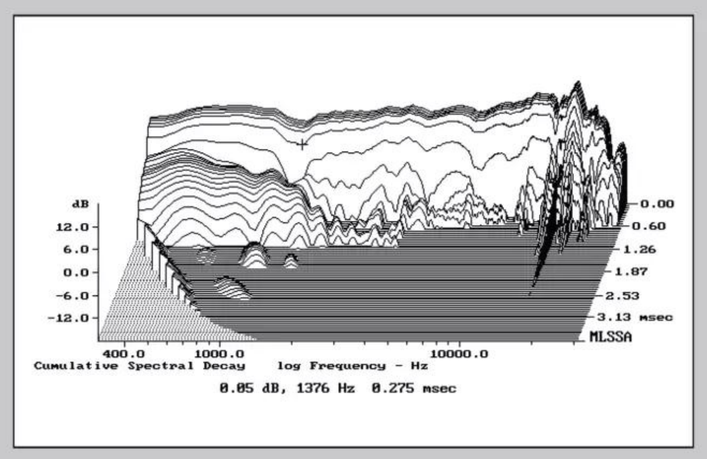


Fig.7 Thrax Siren, cumulative spectral-decay plot on tweeter axis at 50" (0.15ms risetime).

VITUS AUDIO

FOREVER NOW

vitusaudio.com

EMOTIVA®

X Marks The Spot

It's A Family Affair

High-end comes down to earth with Airmotiv X. Exceptional sound quality. Intelligent engineering. Amazing value. Designed with care, precision, and pride in Nashville, Tennessee.

From $999/pair at emotiva.com

design could now be heard in that quality of natural harmony. This is rare, familiar from historic large-panel speakers such as Quad and Apogee and to a lesser degree Magnepan. It is also present with some direct-radiator moving coil designs including recent, larger Magicos—speakers whose designers have also put considerable effort into lowering distortion.

Once fully planted, the Sirens sounded exceptionally natural and were consistent with respect to timbre and voice, which changed very little with either loudness or program density/complexity—a highly valued behavior consonant with low inherent distortion. The treble register was silky yet naturally dynamic, transparent, and microdetailed. Vocal sibilants were natural and unstressed, violins airy without unnatural hardening of timbre, while tenor sax was vibrant and expressive. The bass through to the midrange was exceptional if not quite as delicately transparent as the treble—how could it possibly be? Still, first off, the primary lower frequencies were even and well balanced, rendered with very low coloration. The Sirens could be pressed hard without complaining, with peak power handling that resembled many a larger, 8" driver. It is perhaps understandable that at very high sound levels, the modestly dimensioned (2") bass port began to huff a little with some limiting a little earlier than the midwoofer did.

The silent, massive peak excursion of the Purifi driver was a wonder to behold, operating with almost inaudible distortion. This compact midwoofer had no right to play this deep and loud. A flash of memory recalled a parallel from audio history, Bob Carver's 1981 7"-per-side, hold-it-in-one-hand "Cube" stereo power amplifier, where his sheer ingenuity with cascaded power rails achieved more than 400Wpc into 4 ohms long before class-D and switch mode power supplies.

On my CD of Manu Katché's *Neighbourhood* (CD, ECM 1896), a great ECM jazz recording that also features trumpeter Tomasz Stanko and saxophonist Jan Garbarek, the opening track, "November 99," features highly rewarding pedal drum and double bass playing. I was not able to interrupt the title track, finding new meaning in the performance with the Sirens in the system. The percussion was exemplary for its detail and expression. There is a beguiling sense of intimacy and articulation with the Sirens; they never shout at you.

I learned a little about sound system presentation from Branko Bozic, a master of the art, and retraced his steps by replaying Miles Davis's "Time After Time" from *Live Around the World* (CD, Warner Brothers 9362 46032-2), which I last heard on Bozic's finely tuned system comprising Conrad Johnson ACT2 series 2 tube amplification with Karan KA M1200 monoblocks driving the magnificent first-gen Avalon Isis speakers. Much of the intimacy of that first experience was recreated here with the Siren, if on a smaller scale. That descent into near silence during the track leads to an explosive release that never fails to enthrall.

"Cathedral in a Suitcase," from Pat Metheny's *Secret Story* (16/44.1 FLAC CD rip of Geffen Records GED 24468), built power and scale beautifully, with fine image depth plus excellent recovery of the fine detailing in this dense score, and it did fair justice to the shimmeringly deep bassline. These tracks were eminently full bodied. Eyes closed, the Siren did not sound like a compact loudspeaker. It will play implausibly loudly whilst remaining forensically detailed. It does not seek to punch forward and impress; rather it steps out of the way, allowing the music to dominate the listening experience.

Cathedral organ was surprisingly satisfying in weight and reach. The late Daniel Chorzempa recorded my favorite rendering of Bach's *Schubler Chorales*, BVW 646 (CD, Philips 412 117-2), here rendered as an open window into recording space and bringing out Daniel's artistry and clear articulation, especially his agile bass pedaling at the Dom Zu Baroque Cathedral at Arlesheim, Switzerland.[3]

Garbarek's "Rites (Special Edit for the Film)," heard on the soundtrack for *The Insider* (CD, Columbia 496458 2), reveals some amazingly deep spatiality, the music exploding from deep inky backdrops to a focused presence at the front of the stage.

In the fourth movement of Steve Reich and *Music for 18 Musicians* (CD, ECM 1129), I found inner depths, limpid transparency, and natural timbres with very good image dimensionality. The bass was nicely weighted, with substantial in-room power to 40Hz and some well-voiced orchestral bass drum at 35Hz.

Continuance, a new jazz issue by Joey Alexander (24/96 FLAC, Mack Avenue/Qobuz), commences with "Blue." Here, the Sirens sing out loud and clear, punchy and clean, the wide-open horn playing almost lifelike. "The Big Picture," gloriously sung by Hannah Reid on *Truth Is a Beautiful Thing* by London Grammar (16/44.1 FLAC, Ministry of Sound/Qobuz), delivered unexpectedly generous bass weight and depth, while Hannah's vocal soared over this intoxicatingly dense mix; no wonder it was a hit. Anna Lapwood breathes life and rhythm into cathedral organ. With lights set low, sit back and enjoy her stunningly atmospheric production playing Hans Zimmer's "Chevaliers de Sangreal" ("Holy Grail"), from the *Da Vinci Code* soundtrack, on *Midnight Sessions at the Royal Albert Hall* (24/96 FLAC download, Sony Classical/Qobuz). An old favorite, "Finding and Believing" from Pat Metheny's *Secret Story* (original mix), is complex and densely scored; the Sirens played it with forensic detail but also remained sweet and open in the upper midrange.

Conclusions

Demonstrating much of the pure harmony of a large panel speaker but with the dynamics of a studio monitor, the Siren could play at almost any volume level—within reason!

With no midrange overprojection and a very low fatigue factor, the Siren enjoys very low distortion coupled with a smooth frequency response that's largely free of delayed resonances. All these factors handsomely support the sweet, transparent sound we experienced. The drivers complement each other in such a way that they blend seamlessly. The Sirens are also more powerful than you have any right to expect from such compact dimensions. Easy on the ears. The Siren joins those select few loudspeakers that are able to truly disappear into the soundstage illusion. ■

3 Many recordings have been made there. See discogs.com/label/1141761-Dom-Zu-Arlesheim-Switzerland.

ASSOCIATED EQUIPMENT

Analog sources Linn LP12 turntable with Keel chassis, Karousel main bearing, Radikal motor control, Naim ARO tonearm with Lyra Delos cartridge.
Digital sources Naim UnitiCore network server and S/PDIF source. Roon Nucleus +. Naim ND555 Streamer-DAC with two 555PS(DR) power supplies.
Preamplification Townsend Allegri Reference, Naim SuperLine-SuperCap DR phono preamplifier.
Power amplifier Naim NAP250.
Loudspeakers Finkteam KIM, BBC LS3/5a 15 ohm.
Accessories Several 4- and 5-tier Naim FRAIM racks; Transparent XL MM2, Naim NAC A5 speaker cables, Naim standard and Super Lumina interconnects, Transparent MM2 and Van den Hul Carbon TFU interconnect cables. Transparent XL series, Naim Powerline Lite and Powerline mains supply cables.—**Martin Colloms**

American Sound

OVER 40 YEARS EXPERIENCE

Distributor of World-Class High-End Audio

CANADA

AIR TIGHT

FRANCO SERBLIN

avantgarde acoustic

JEFF ROWLAND DESIGN GROUP

RSX™ RSX TECHNOLOGIES

SHELTER

VAC

WADAX

Western Electric

YUKI YUKISEIMITSU AUDIO

NORTH AMERICA

ANALOG RELAX

avantgarde ACOUSTIC

Phasemation

SUPREME - ANALOG

WORLDWIDE

RETHM

USA

GLANZ

American Sound Distribution
12261 Yonge St.
Richmond Hill, ON
L4E 3M7 CANADA

Dealer Inquiries
(905) 773-7810
www.audiopathways.com
angie@americansound.com

KEN MICALLEF

Technics Grand Class SL-1200/1210GR2

RECORD PLAYER

In the early 1980s, I worked in a pop band playing AM radio hits, grooving behind my Yamaha drums and Zildjian cymbals as sweat drenched my body and my ears rang. We danced. We pranced. My shiny silk jumpsuit led upwards to a 2"-high afro, which women ran fingers through in hopes of finding contraband smokes.

I was not proud. Our band was hot, booked year-round in hotel lounges and standalone clubs from Florida to Virginia Beach.

"Beach music" was a popular southeastern style then, an R&B variation on '40s swing and doo-wop, with close vocal harmonies, popping brass, and choregraphed dance steps. Like peanut-sized rock stars, we reveled in this insular, south-of-the–Mason-Dixon–line entertainment lifestyle with its small-town intrigues, tasty southern food, and bodacious southern belles. Then overnight, everything changed.

At the beginning of the previous decade, Technics had released the SP-10, the first direct drive turntable. That was followed in short order by the SL-1100. Clive Campbell, aka Jamaican-American DJ Kool Herc, pioneered the simultaneous use of two Technics SL-1100s, initially at his sister's birthday party in the Bronx, inspiring "block parties" (rigging streetlamps for power) and hip-hop culture. Kool Herc isolated drumbeats from records by James Brown (with drummers Clyde Stubblefield and John "Jabo" Starks) and the Incredible Bongo Band (powered by master studio drummer Jim Gordon), among others, creating "breaks" for heated dance-floor partying. Soon, Lace Taylor (aka Afrika Bambaataa) and Grandmaster Flash (*The Message*) took Kool Herc's inventions into the mainstream, and hip-hop went global.

The SL-1100's successor, the SL-1200, released just a year after the SL-1100, quickly became the deejay's turntable of choice and continued to be until it was succeeded in 1979 by the SL-1200MK2, the first turntable to intentionally include deejay-friendly features. The world's most popular turntable was born.

Back to those clubs and hotel lounges. Rooms and audiences that had been ours and ours alone were stolen by a slick dude with a pair of silver Technics SL-1200MK2 turntables, a GLI PMX 7000 mixer, and a chintzy PA. Our kingdom of smoky lounges and *come-hither* smiles shrunk with every needle drop. Our snazzy silk jumpsuits were replaced by his louche Hawaiian shirts and flared polyester pants. One room after another fell to the cult of the deejay, who demanded less cash than a band of unruly musicians. Dancers grinded to the pounding music the deejay played, his cueing finger a powerful tool, his control total. A paradigm shift was in full force. The road-band scene was demolished. I left the road to study jazz.

Spinning on the Technics, Jackie McLean's *Right Now!* hit me like a hurricane.

Since those days, many Technics models have entered the market, for home, radio, and deejay use, to mark technological advancements and celebrate Technics anniversaries. Descendants of the Technics SL-1200 were consistent in their feature set: a direct drive motor with high torque for fast startup, a 9", S-shaped gimbaled tonearm, stroboscope and target (stylus) lights, a die-cast aluminum platter, isolator feet, and a slider pitch control. The SL-1200 deejay 'table is now in its seventh generation.

How is the deejay 'table different from the turntable I'm review-

Underwood HiFi

VALUE INNOVATION IN HIGH END AUDIO

AN AMPLIFIER FOR A LIFETIME
THE EMERALD PHYSICS 600.2SE

INTRODUCTORY PRICED AT

$1999

DELIVERED ANYWHERE IN THE WORLD
600 WATTS/CHANNEL POWERHOUSE
SELECTABLE TUBE OR SOLID STATE FRONT END

Part Time Audiophile summed with:
"At the price point of the Emerald Physics amp, I can't really uncover any shortcomings worth mentioning. It's really just a great amplifier, and I can't say enough positive things about it. Because of its tremendous value and overall superb performance, I'm unabashedly nominating the Emerald Physics 600.2SE amplifier for a Reviewer's Choice Award. Another win to Underwood Hi-Fi!"

Audio Pursuit summed with:
"The EP600.2SE is a perfect example of the value that Class D amplification brings to the audio market. For $1999 with a three-year warranty, it delivers ridiculous levels of horsepower that easily drives traditionally difficult 4 Ohm speaker loads such as Magnepan without stress. Most importantly, across the entire frequency spectrum, the vacuum tubes add a wonderful level of lushness and vibrancy to the music. For those of you who crave power on a smaller budget, get your ears on the EP600.2SE. I'm looking at what excess gear to sell, as this Emerald Physics EP600.2SE has found a home!"

TONEAUDIO SUMMED UP WITH:

"It's really just a great amplifier, and I can't say enough positive things about it. Because of its tremendous value and overall superb performance, I'm unabashedly nominating the Emerald Physics 600.2SE amplifier for a Reviewer's Choice Award. Another win to Underwood Hi-Fi!"

JEFF DORGAY – EDITOR/PUBLISHER
TONEAUDIO – AUDIOPHILE APARTMENT

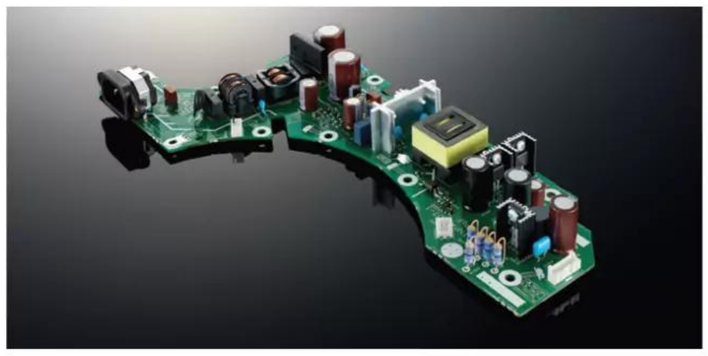
underwoodhifi.com | underwoodwally@aol.com | 770.667.5633

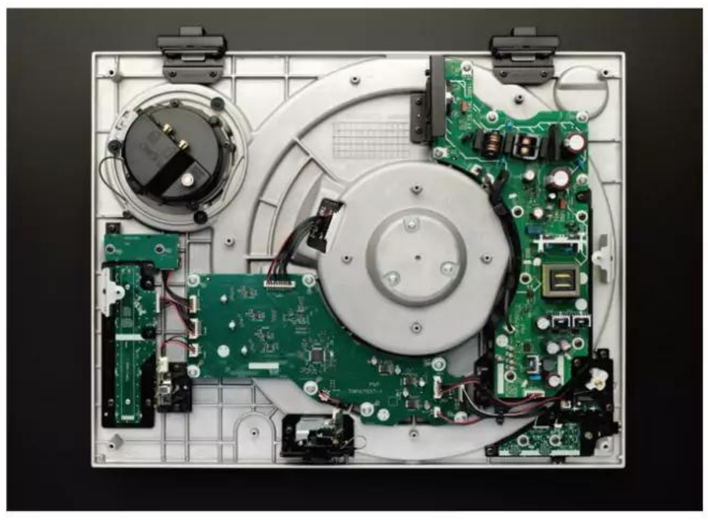
CALL OR EMAIL TO ORDER

ing? The deejay version has a lighter platter, a reverse switch (so deejays can play records backwards), a nonhinged dustcover, and different torque and braking adjustments.

Technics never stopped making 'tables for music lovers, descendants not just of the SL-1200 but also of the original SP-10, which today is almost as legendary in audiophile circles as the SL-1200 is among deejays. 1200-series turntables have been on the market since their introduction in 1972, except for a brief pause between 2010 and 2016, when the SL-1200G was introduced. What music-loving teenager in the 1970s and '80s didn't own at least one direct drive Technics deck, maybe an SL-2000 "Black Beauty" or the semiautomatic SL-1700?[1]

Among the audiophile variants Technics has released since that 2016 reintroduction are the $4000 Grand Class SL-1200G, reviewed by Alex Halberstadt in November 2022,[2] and the SL-1200GR, reviewed by Michael Trei in *Sound & Vision* in 2018.[3] The Grand Class SL-1200GR2 ($2199), the GR's successor, is Technics's newest record player. It adds several features that should up its performance considerably.





The SL-1200GR2

This latest iteration of the Technics SL-1200 includes two main advances: "a revolutionary new drive control method for smooth, accurate rotational stability, and a new power supply for an exceptionally low noise floor," according to the press release.

It isn't obvious that technology from an amplifier could aid in a turntable's rotation stability, but that's what happened here. The GR2 uses technology that originated in Technics's SU-R1000 integrated amplifier, one of the finest amplifiers I've had the pleasure to review. Specifically, the "JENO Engine" in the SU-R1000 utilizes a 1-bit delta-sigma modulator in the signal procession leading from digital input to musical output. Technics says that this technology generates a perfect sinewave, greatly reducing vibrations in the coreless direct drive AC motor. "It is based on a signal-processing technique that uses noise shapers to reduce distortion and was developed by an amplifier signal processing engineer," wrote Tetsuya Itani, formerly Technics CTO and now a Technics technical expert.

"This has a significant impact, especially on the frequency range where the motor vibrations overlap with the natural resonance of the tonearm/pickup cartridge combination. Thus, the tracking precision is drastically improved." That's from the Technics website.

"GR2 technology improves on our coreless story by removing even more micro vibrations and making way for improvements in the power supply," wrote Technics US Business Development Manager Bill Voss, by email. "The progression from the legacy models to the new coreless models, which utilize higher tech and materials like magnesium in the G-model tonearm, zinc and special gel in the footers, and higher-grade plinth designs and improvements in tonearm sensitivity and ease of cable connectivity, laid the groundwork for audiophiles and allowed us to develop the more affordable, deejay-specific 1200MK7 and mainstream 100C/1500C models

1 Mine, I'm pretty sure—the one I remember best—was an SL-3200 semiautomatic.

2 See stereophile.com/content/technics-sl-1200g-turntable.

3 See soundandvision.com/content/technics-sl-1200gr-turntable-review.

SPECIFICATIONS

Description Direct drive turntable with 5.51lb (2.5kg), 13 $^{5}/_{64}$" (332mm)–diameter two-layer die-cast aluminum platter; two-layer vibration-damped plinth, iron-coreless, brushless AC motor running at 33 $^{1}/_{3}$, 45, 78rpm; "S" shaped gimbal tonearm, detachable bayonet headshell. One pair RCA jacks, ground terminal. Speed adjustment range: ±8%, ±16%. Starting torque: 2.2kg-cm, adjustable. Build-up characteristics: 0.7s from standstill to 33 $^{1}/_{3}$ rpm. W&F: 0.025% WRMS. Power consumption: 11W in use, approx. 0.3W on standby. Included in the box: turntable, tonearm, rubber mat, attachable dustcover, EP record adapter, counterweight, auxiliary counterweight, headshell, overhang gauge, screw set for cartridge, phono cable (pair), phono earth (ground) lead, AC power supply cord, owner's manual. Tonearm: Universal Static Balance type. Effective length: 230mm (9 $^{1}/_{16}$"); overhang: 15mm ($^{19}/_{32}$"); tracking error: < 2° 32' at the outer groove of a 12" record, within 0° 32' at the inner groove; offset angle: 22°, VTF adjustment range: 0–6gm; headshell weight: approx. 7.6gm; cartridge weight range without auxiliary weight, 5.6–12.0gm; with auxiliary weight, 10.0–16.4gm. Headshell terminal lug: 1.2mm 4-pin. Cartridge mounting dimension: JIS $^{1}/_{2}$" (12.7mm) interval.

Dimensions 17 $^{27}/_{32}$" (453mm) W × 6 $^{13}/_{16}$" (173mm) H × 14 $^{21}/_{32}$" (372mm) D. Weight: 25.35lb (11.5kg).

Finish SL-1200GR2-S silver; SL-1210GR2-K black.

Serial number of unit reviewed GM3HA001004. Designed in Japan, manufactured in Malaysia.

Price $2199.99. Number of US dealers: "25 Hi-Fi Specialist dealers." Warranty: 3 years, parts & labor, original owner only.

Manufacturer
Panasonic Corp.,
Shiodome Bldg. 1-5-1 Higashi Shinbashi, Minato-ku,
Tokyo 105-8301.
Web: technics.com, na.panasonic.com.
Imported by Panasonic Corp. of North America,
Two Riverfront Plaza,
Newark, NJ 07102.
Tel: (201) 348-7000.
Web: us.technics.com.

The Gryphon Diablo 333

Perfection, Redefined

THE GRYPHON

www.gryphon-audio.com

based on that technology."

As Voss mentioned, the GR2, which is built in Malaysia, features a new power supply, which the company calls "Multi-stage Silent"; it combines a "low-noise, high-speed power supply working at over 100kHz and a noise-canceling circuit inherited from our reference class SL-1000R turntable," according to the Technics website. "This circuit measures the level of minute noise in the regulator output and cancels the noise by adding its inverse component current to the output," Itani wrote. The website again: "By this method, a very low noise floor is achieved, enabling exceptional signal-to-noise ratio, improving the overall signal performance."

The improvements don't stop there. Apparently, Technics received complaints regarding the VTA dial set at the base of the bearing housing. It's very easy to use, but some found the range of adjustment too narrow for all possible cartridge and arm combinations. With the GR2, Technics supplies a 3mm die-cast aluminum cartridge spacer, which allows improved cartridge compatibility compared to the SL-1200GR and earlier Technics models.

Some elements of the earlier GR machine were retained from previous generations, including its two-layer plinth made from die-cast aluminum and BMC (bulk molding compound) to resist vibrations; the classic, S-shaped aluminum tonearm; the two-layer, 5lb aluminum platter damped by rubber applied to its rear surface; and four insulator feet consisting of a "metal housing with cylindrical tubes using microcell polymers, silicone rubber, and felt," Voss wrote.

The SL-1200GR2 comes in two color schemes, with model numbers redundantly indicating the color difference: the silver SL-1200GR2-S and the black SL-1210GR2-K. On both GR2s, more parts are said to match the color scheme than on the original GR, and the finish is said to have a "new body surface touch quality."

Setup

The GR2 weighs slightly more than 25lb—solid but easy to move—and it fit easily onto my IKEA bamboo platform atop my Salamander rack. The turntable is easy to use, with essentially the same user-friendly design Technics has used for the last 60 years.

That attitude of attentiveness and dedication is felt and seen in the GR2, from its smooth surface and ubiquitous large power button to the small details of the pitch slider, strobe, and stylus lights. From an audiophile perspective, those mechanical tools—really retro tchotchkes—mean little. But they reflect the Japanese design aesthetic of respect for the past while improving the technology of the present for the collective betterment of the future that certainly rings true in the GR2.

Following a current, welcome trend in the industry, Technics uses new packaging for the 1200GR2/1210GR2 to ensure their "products are fully protected throughout their journey to our consumers." The new packaging is Styrofoam-free; those hulking white inserts are bad for the environment and crumble and split if handled roughly. For packing up the GR2, Technics replaced Styrofoam with "smart shaped cardboard" ensconced in an outer cardboard box of adequate sturdiness. The internal cardboard sections fit the individual turntable parts like a glove and fill the box completely for extra rigidity.

The GR2 arrived with its tonearm premounted. I used three cartridges for this review: the EMT TSD 15N, the Dynavector DV-10X5 MKII, and the Kuzma CAR-30, using the headshell supplied by Technics and others from my personal collection. Easy cartridge swapping is one of the joys of Technics's SME-type bayonet headshell. Fit and finish of the GR2 could hardly be better at the price.

After aligning the EMT cart with my Feickert Universal Protractor, I slid the aluminum counterweight over the aft stub of the tonearm and set the tracking force using my Riverstone Audio Precision Record-Level VTF Gauge. A small auxiliary weight was supplied for use with heavier carts; it cleverly screwed directly into the butt end of the tonearm. Technics also supplied their classic thick rubber mat; I felt no need to experiment. I did, however, replace the flimsy interconnects provided with a pair of Triode Wire Labs Spirit II RCA interconnects, which fit very loosely on the GR2's gold-plated RCA connectors. The GR2's power cord was thicker and more robust than those supplied with some power amps. The GR2's feet are height-adjustable, so I used them to level the machine, but they were stiff and hard to rotate, which made this job more difficult than it should have been.

In use, the GR2 feels sleek and responsive, like a sports car. Its solidity, ease of use, consistent performance, and ergonomic flow made it seem like a musical instrument—actually making music and not just spinning the vessel that stores those precious waveforms, which our ears identify as Hank Mobley, George Jones, or Billie Eilish.

Listening

Eilish is fine on the car radio or when she pops up on some playlist. Silky songs, silky voice. But if I'm really listening, her 2021 album, *Happier Than Ever*, is sonic swill, DOA, a muted, teen-friendly, headache-inducing tooth puller. For listening pleasure, I pull out Sonny Rollins, Stanley Turrentine, Jackie McLean, Charles Mingus, maybe the Beatles. Lately, I've also been pulling out my Thorens TD 124 MKII turntable, currently equipped with The Wand Tonearm and a Luxman LMC-5 MC cartridge. It's not fair to compare sub-5k turntables with the $30,000 VPI Avenger Direct I routinely use, so I did all comparisons with the vintage Thorens.

The Thorens plays records with speed, punch, panache, dimensionality, and lifelike, wow-me dynamics. There's something undefinable about how it plays music, something magical.[4]

4 It is only fair to note that the tonearm in this combo costs almost as much as the Technics SL-1200GR2, which, as already noted, includes a fine tonearm.

Amplifiers and Integrated amps
are now available in black

PASS

Pass Laboratories
13395 New Airport Rd. Ste G., Auburn, CA 95602
(530) 878-5350 - www.passlabs.com

The lineup for the listening session with the Technics GR2 included Jackie McLean's *Right Now!* (Blue Note Liberty 84215), Sonny Rollins's *What's New?* (RCA LPM-2572) and *Sonny Meets Hawk!* (RCA Dynagroove LPM-2712), and Stanley Turrentine's treatise on kicking butt and taking names, *Easy Walker* (mono, Blue Note Liberty BLP 4268). These four records pack enough rhythmic punch, tonal purity and saturation, spatial splendor, and walloping dynamics to electrify the mind/body connection, assuming you're not dead.

With Triode Wire Labs Spirit II interconnects connecting the SL-1200GR2 to the solid state Aurorasound Vida II phono stage, the Technics player was great fun and very revealing. The Luxman LMC-5 and EMT TSD 15N cartridges are not dissimilar, though the EMT (on the Technics) had more piss and vinegar;[5] it proved punchier and tighter with more drive than the smoother LMC-5.

Compared to the Thorens, the GR2 stepped a bit lighter playing *Easy Walker*, but its drive and punch were—paradoxically?—soul quickening. The Technics brought out the strengths of this late '60s mono pressing with a fat, full, spatially dense center image. (Remember: It's mono.) Now I could hear the cymbal detail and shimmer and the resonant snare drum smacks of drummer Mickey Roker, and Mr. T's tenor was hard-edged, immediate, and forceful. The Technics + EMT made very exciting music, a little forward and a bit leaner than the Thorens/Wand/Luxman combo.

Spinning on the Technics, Jackie McLean's *Right Now!* hit me like a hurricane. Recorded by McLean in 1965 at Rudy Van Gelder's Englewood Cliffs studio with pianist Larry Willis, bassist Bob Cranshaw, and drummer Clifford Jarvis, *Right Now!* is one of McLean's greatest Blue Note outings, comparable in performance, energy, and compositional power to *Demon's Dance* (a recent Tone Poet reissue), the experimental, Roy Haynes–fired *Destination ... Out!*, *Jackie's Bag*, and the mighty twofer *Jacknife*.

When the Technics/EMT combo met *Right Now!*, every ounce of detail was resolved within an exciting, layered soundstage. McLean blew full, fast, and mean out of the left channel as Clifford Jarvis's chunky drum work pelted me with jabs and stomps from the right. The music was clean, knife-edged, biting, soaring.

Technics's success in lowering the noisefloor, in its turntables as in its recent integrated amplifiers, is a verifiable, *physical* thing. Heard through this 'table, '60s Blue Note hard bop was a chunky stew of aural nourishment. But I need more than speed and vigor from a turntable. Equally important are elasticity and romance, color and a sense of mystery revealed.

So, on to the gentler rhythms of *The Artistry of Helen Merrill* (Mainstream S/6014), a 1965 recording with guitarists Charlie Byrd and Jimmy Raney, drummer Osie Johnson, and bassist Keter Betts. Here was lushness and desire laid bare and beautiful. The Technics naturally reproduced the bubbles, plucks, and nonchalant rhythmic debris of David Toop's *Pink Spirit, Noir World* (Foam on a Wave FOAW003), that 1997 meeting of technology and folklore.

The Technics/EMT pairing was a party animal compared to the Thorens/Wand/Luxman trio. The Thorens time machine reproduced classic sounds with a clear sense of their milieu. With the EMT, the Technics was a modern assault of resolution and rhythm. Hearing what I heard, it was easy to understand why Technics turntables are considered the world's greatest deejay machines. They've got timing, pulse, and action in spades. But how much of that was the EMT?

Mounting the Kuzma CAR-30 in place of the EMT and maintaining the Aurorasound phono stage brought changes primarily in the treble. Playing McLean's *Right Now!* again, I heard speed, density, and physicality and what I can best describe as *heat*. This new, fiery flavor nurtured punchier dynamics, a wider spatial spread, and better decay. An upward frequency shift in focus brought greater exposure and direction to Jackie Mac's biting, sometimes queasy alto sound peeling off Jarvis's flaming drum work.

Switching again, now to the Dynavector DV-10X5 MKII MC, shifted attention away from the treble toward the midrange and brought about a more relaxed sound. Acoustic bass was smoother and plumper. I heard similarities to the EMT, but the Dynavector played with less slam and physicality and more smoothness, evenness, and sense of stillness.

Keeping the Dynavector in line but replacing the Aurorasound with my reference Tavish Audio Design Adagio tubed phono stage changed the sound for the better. The transition was immediate and large: more flesh, blood, richness, roundness, weight, and drama. Music flowed better and followed a more musical line, with an effortlessness that allowed the Technics to produce more natural-sounding musical beauty. Tonality was heartfelt, pure. The soundstage grew wider while absolute definition, layering, and detail was reduced. Head bopping increased, music meeting the ear in sweet waves of serenity. Hard-charging tunes, like opener "Eco," wrung me out, while Willis's ballad "Poor Eric" took me away from the system and purely, deeply into the music.

Conclusion

The Technics Grand Class SL-1200GR2-S/SL-1210GR2-K direct drive turntable continues a decades-long tradition of giving the people what they want. To an audiophile, that pitch-adjustment slider may seem like a toy with no clear purpose, but other characteristics of interest to deejays proved more transferrable. Their pursuit of a lower noisefloor, more refinement, and greater purity places Technics firmly in the audiophile here and now. In any case, you've got to respect their respect for tradition.

The GR2 played with dynamic punch with all types of music, worked well with and proved remarkably transparent to the character of cartridges and phono stages, and it was always fun to use. I'm not sure why Technics chose to keep the pitch slider; more than likely, they decided "why not?" But this is clearly an audiophile 'table, one capable of high performance at the price. If the $2199 price hits your wallet's sweet spot, give it a literal spin. ■

ASSOCIATED EQUIPMENT

Analog sources Thorens TD 124 MKII turntable; The Wand tonearm; Dynavector DV-10X5 MKII, EMT TDS 15N, Kuzma CAR-30, and Luxman LMC5 cartridges.
Integrated amplifiers PrimaLuna EVO 400, Triode Lab EVO 45.
Preamplifiers Aurorasound Vida MKII phono, Manley Chinook phono, Tavish Audio Design Adagio phono.
Loudspeakers Devore Fidelity O/baby, Heretic AD614, Volti Audio Razz.
Cables Interconnects: AudioQuest Pegasus RCA, Analysis Plus Silver Apex RCA, Triode Wire Labs Spirit II. Speaker: AudioQuest Robin Hood. AC: AudioQuest NRG Z, Triode Wire Labs Obsession NCF.
Accessories Pro-Ject VC-S2 ALU Record Cleaning Machine, Hunt Mark 6 Carbon Fiber Record Cleaning Brush, AudioQuest PQ-707 Power Conditioner, IsoTek EVO3 Aquarius Mains Conditioner, Salamander five-tier Archetype rack (2), IKEA Aptitlig bamboo chopping boards (under turntable, preamp, power and integrated amps), mahogany blocks (three to a stack) under IKEA boards.—**Ken Micallef**

5 I own that EMT. It's one of the most dynamic cartridges I've ever heard—dynamic almost to a fault, by which I mean, it can sometimes seem a bit sloppy.—**Jim Austin**

UNITI NOVA PE | ALL-IN-ONE PLAYER

Uniti Nova Power Edition takes musical emotions to the next level. With its 150 watts, this high-resolution player and stereo amplifier brings energy and musical sounding to the most demanding hi-fi loudspeakers. Its streaming functions – Spotify Connect, Apple Music, TIDAL, Qobuz – its AirPlay2, Chromecast, UPnP™, Roon Ready and Bluetooth® AptX technologies and its multi-room compatibility make it an allround player that delivers hi-fi sound and is easy to use.

MORE POWERFUL THAN EVER

JOHN ATKINSON

Wharfedale Heritage Series 90th Anniversary Dovedale

LOUDSPEAKER

When I first got interested in audio in the UK, in the 1960s, four English brands dominated the domestic loudspeaker scene: Goodmans (founded in 1923), Celestion (whose first loudspeaker was launched in early 1925), Tannoy (which started making loudspeakers in 1928), and Wharfedale. Wharfedale was the youngest of these brands, founded in 1932 in Yorkshire—the land of the Dales—by Gilbert Briggs.

In 1968, following some failed experiments with home-brewed speakers, I was looking to buy a pair of "real" loudspeakers. I was attracted to the large Wharfedale Dovedale, with its 12" woofer, but ended up with a pair of Wharfedale's Super Lintons, the two-way model with the "purple jellyfish" tweeter. I was able to afford the smaller Wharfedales, and they fit on bookshelves in my parents' living room. I subsequently installed the speakers on shelves in my first apartment, then again on shelves in my first house's living room. I used the Super Lintons for several years, until I joined the staff of British magazine *Hi-Fi News & Record Review* in 1976. But I always wondered if I should have borrowed enough money to buy those original Dovedales.

Wharfedale is still a British brand, with its R&D department in the UK, but it's now owned by the IAG Group, which was founded in Hong Kong in 1991 and is based in Shenzen, China. In addition to Wharfedale, IAG owns the Audiolab, Castle Acoustics, Leak, Luxman, Mission, and Quad brands. In recent years, Wharfedale has been introducing redesigned versions of some of its classic speakers. Herb Reichert favorably reviewed the three-way Linton Heritage loudspeaker in September 2019;[1] then, at the 2022 Munich High End Show, Wharfedale introduced the subject of

1 See stereophile.com/content/wharfedale-linton-heritage-loudspeaker.

SPECIFICATIONS

Description Three-way, reflex-loaded, standmounted loudspeaker. Drive units: 10" (254mm) black, woven Kevlar cone woofer; 5" (135mm) black, woven Kevlar cone midrange unit; 1" (25.4mm) soft-dome tweeter. Crossover frequencies: 560Hz, 2.9kHz. Frequency response: 36Hz–20kHz ±3dB. Bass extension: –6dB at 25Hz. Nominal impedance: 6.5 ohms. Minimum impedance: 3.6 ohms. Sensitivity: 89dB/2.83V/m. Peak SPL: 112dB. Recommended amplifier power: 25–250W. Supplied accessories: handling gloves, carpet-piercing spikes, carbon-steel frame stands with black glass inserts.
Dimensions 26" (660.4mm) H × 14.6" (370.8mm) W × 17.6" (447mm) D. Stands add 13" (330.2mm) to height. Weight: 57.7lb (26.23kg) each.
Finish Real Wood Veneer, Walnut Finish.
Serial numbers of units reviewed WH065405CFD0011 (both). "Made in the UK."
Price $6995/pair including stands. Approximate number of US dealers: 25, plus sold online. Warranty: 3 years for registered purchasers.
Manufacturer Wharfedale, IAG House, 13/14 Glebe Rd. PE29 7DL, England, UK.
Tel: + 44 (0)1480 452561.
Web: wharfedale.co.uk.
US distributor:
Wharfedale USA.
Tel: (312) 738-5025.
Web: wharfedaleusa.com.

eversolo

The New DMP-A8 Streamer

THE FIRST OF ITS KIND.

«Bridging the gap between performance, features, and affordability».

Immerse yourself in the ultimate audio perfection with the Eversolo DMP-A8. This groundbreaking device, a music streamer, DAP, DAC, and preamp all in one, excels in accurate sound representation.

---

forté Distribution

forte-distribution.com

(USA Distributor)

eversolo

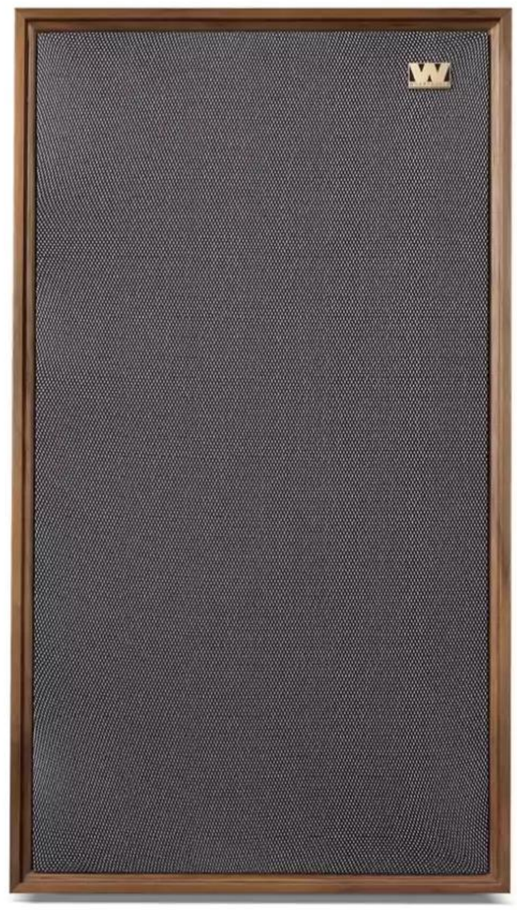
www.eversdolo.com

MOTET DISTRIBUTION

motetdistribution.com

(Canadian Distributor)

this review, the Heritage Series 90th Anniversary Dovedale. The original Dovedale I lusted after in the 1960s was a two-way; the new speaker is a reimagining of the three-way Dovedale 3, from 1971.



The 90th anniversary Dovedale

The new Dovedale is the first Wharfedale loudspeaker to be manufactured in IAG's new, 9,000sf UK production facility in Huntingdon, Cambridgeshire. It was designed by IAG Acoustic Director Peter Comeau. In an interview at the 2022 Munich show,[2] Comeau outlined the new Dovedale's design philosophy, recalling that as a teenager he built a pair of Dovedales from a Wharfedale "Unit 5" driver/cross-over kit. In addition to the Linton Heritage, Comeau was responsible for the great-sounding Mission 770 I reviewed in November 2022.[3]

Superficially, the Dovedale looks like a larger version of the Linton Heritage. The midrange and low-frequency drivers use the same black, woven Kevlar diaphragms used in the Linton. The 5" midrange unit is the same as the Linton's. It crosses over to the woofer—a 10" unit in the Dovedale, in contrast to the Linton's 8"—at a somewhat lower 560Hz. The 10" woofer uses a diecast chassis and is reflex loaded with two flared, 2" ports at the base of the rear panel. The soft-dome tweeter is derived from the one used in the Linton, and it uses the same ceramic magnet. However, it adds a rear chamber to lower the frequency of its fundamental resonance so that now lies well below the upper crossover point of 2.9kHz. Electrical connection is via a single pair of binding posts at the bottom of the Wharfedale Dovedale's rear panel.

2 See youtube.com/watch?v=MHSZA0VxjHE.

3 See stereophile.com/content/mission-770-loudspeaker.

MEASUREMENTS

I used DRA Labs' MLSSA system, a calibrated DPA 4006 microphone, and an Earthworks microphone preamplifier to measure the Wharfedale Dovedale's quasi-anechoic frequency- and time-domain responses in the farfield. I used an Earthworks QTC-40 mike for the nearfield and in-room responses and Dayton Audio's DATS V2 system to measure the impedance magnitude and electrical phase angle. I examined the farfield behavior on the tweeter axis, which, with the speaker on its stands and spikes, places the tweeter 35" from the floor. As designer Peter Comeau recommends that the speaker be used with its grille, I left the grille in place for all the farfield measurements.

Wharfedale specifies the Dovedale's voltage sensitivity as a high 89dB/2.83V/m. My estimate, calculated by comparing the Dovedale's B-weighted SPL at 50" with that produced by a Rogers LS3/5a, was 89.1dB(B)/2.83V/m. The Dovedale's impedance is specified as 6.5 ohms, with a minimum value of 3.6 ohms. The impedance magnitude (fig.1, solid trace) varied between 4 ohms and 8 ohms over most of the audioband, with a minimum value of 3.37 ohms at 117Hz. The electrical phase angle (dotted trace) is sometimes high, reaching –39° at 62Hz and +27° at 313Hz. Consequentially, the effective resistance, or EPDR,[1] lies below 3 ohms between 65Hz and 362Hz, with minimum values of 1.76 ohms at 81Hz and 2.1 ohms at 228Hz. The Dovedale is a demanding load for the partnering amplifier.

I investigated the enclosure's vibrational behavior with a plastic-tape accelerometer and found resonant modes at 207Hz and 832Hz on the top and side panels (fig.2). These modes, however, were very low in level and have a relatively high Q (quality factor), which will work against any audible consequences.

The woofer's response, measured in the nearfield (fig.3, blue trace), has the

1 EPDR is the resistive load that gives rise to the same peak dissipation in an amplifier's output devices as the loudspeaker. See "Audio Power Amplifiers for Loudspeaker Loads," *JAES*, Vol.42 No.9, September 1994, and stereophile.com/reference/707heavy/index.html.

Stereophile Wharfedale Dovedale Impedance (ohms) & Phase (deg) vs Frequency (Hz)

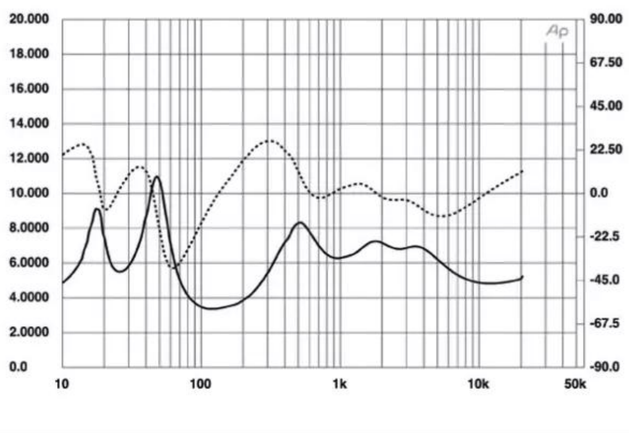


Fig.1 Wharfedale Dovedale, electrical impedance (solid) and phase (dashed) with ports open (2 ohms/vertical div.).

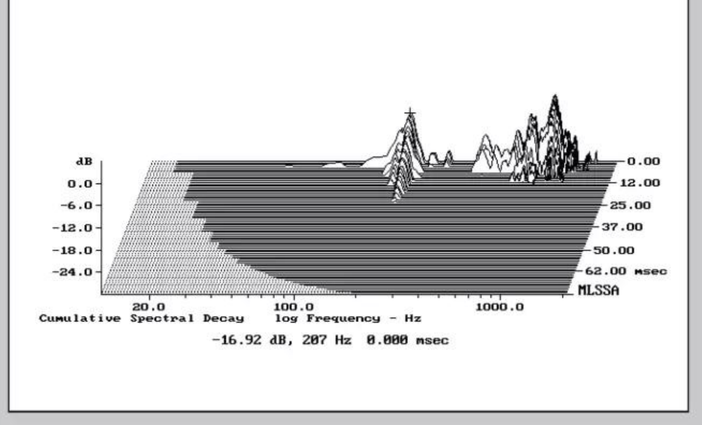
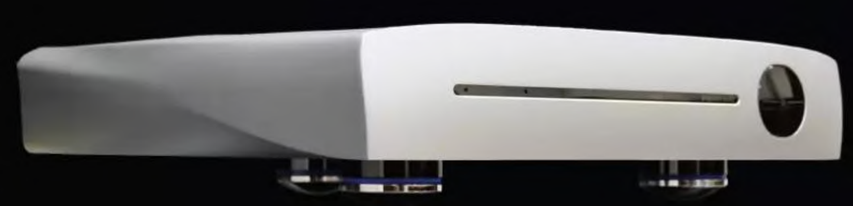


Fig.2 Wharfedale Dovedale, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

antipodes.audio

antipodes

more emotion



a musician creates music for a reason

we make products that reveal the reason

"Large cabinets can have large problems," I was once told by a veteran speaker designer. The Dovedale's cabinet is large, measuring 26" high, 14.6" wide, and 17.6" deep. Comeau therefore focused on making the hefty enclosure as inert as possible. The panels use sandwich construction with constrained-layer damping between particleboard on the inside, high-density fiberboard on the outside, and a layer of latex glue in between. The cabinet is finished in walnut veneer.

The tweeter and midrange unit are offset on the front baffle, which Wharfedale says "scatters reflections and provides superior focus on the stereo image." (The speakers are supplied as a handed pair.) The original Dovedale featured what was called a "floating" grille, inset on its front baffle. The new Dovedale uses a similar grille, magnetically suspended between the raised edges of the baffle. The inner surface of the grille's fiberboard frame is subtly contoured around the drive units to optimize their dispersion.

The Dovedale's price includes a pair of substantial, rectangular open-frame stands made of carbon steel. Standing 13" high on its four large stainless steel spikes, the stand has black glass inserts at the top and bottom. Three of the four uprights are filled with damping material. The fourth is hollow so that speaker cables can be threaded through it.

measurements, continued

expected minimum-motion notch at a low 24Hz, which implies extended low frequencies. The port's nearfield output (fig.3, red trace) peaks slightly below the tuning frequency and, other than a low-level peak just below 200Hz and others an octave higher, its upper-frequency rollout is clean. I haven't shown the nearfield output of the midrange unit because it was affected by crosstalk from the adjacent woofer. However, the crossover frequency between these two drivers appeared to be close to the specified 560Hz. The complex sum of the woofer and port responses (fig.3, black trace below 300Hz) has the usual peak in the midbass region due to the nearfield measurement technique, which assumes that the drive units are mounted in a true infinite baffle.

The black trace above 300Hz in fig.3 shows the Dovedale's quasi-anechoic farfield response, averaged across a 30° horizontal window centered on the tweeter axis and taken with the grille. Other than a small suckout between 1kHz and 2kHz, the response is flat, with then a sharp rolloff above 19kHz. The pair matching between the two samples was excellent, the difference in the farfield response falling within ±0.25dB limits from 1kHz to 5kHz and ±0.5dB limits from 5kHz to 20kHz. Without the grille, the energy in the presence region increased by up to 3dB.

Fig.4 shows the Wharfedale's horizontal dispersion with the grille in place, normalized to the response on the tweeter axis, which thus appears as a straight line. The off-axis behavior to the side of the baffle closest to the tweeter and midrange unit is shown to the front of this graph. There appears to be more midrange energy off-axis on the other side of the baffle, and there is more presence-region energy on both sides. The relatively wide baffle means that the Dovedale's output rolls off sharply off-axis above 12kHz. The speaker's dispersion in the vertical plane, again normalized to the response on the tweeter axis (fig.5), shows that the response is maintained up to 10° above the tweeter axis. A suckout develops in the crossover region 15° below

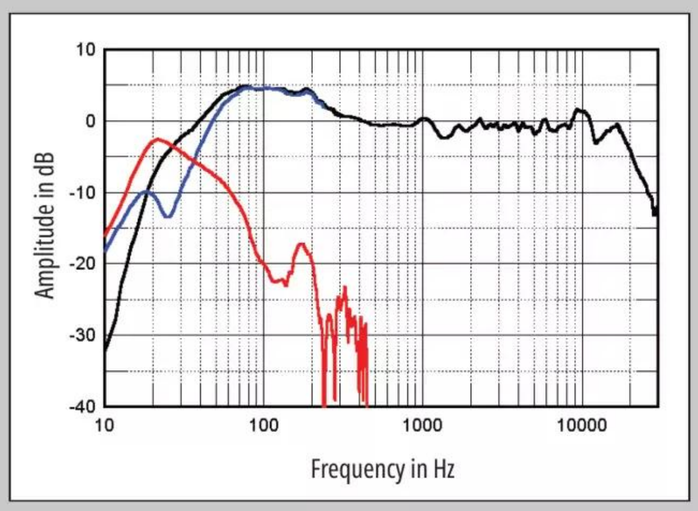


Fig.3 Wharfedale Dovedale, anechoic response with grille on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with the nearfield responses of the woofer (blue), port (red), and their complex sum (black), respectively plotted below 300Hz, 500Hz, and 300Hz.

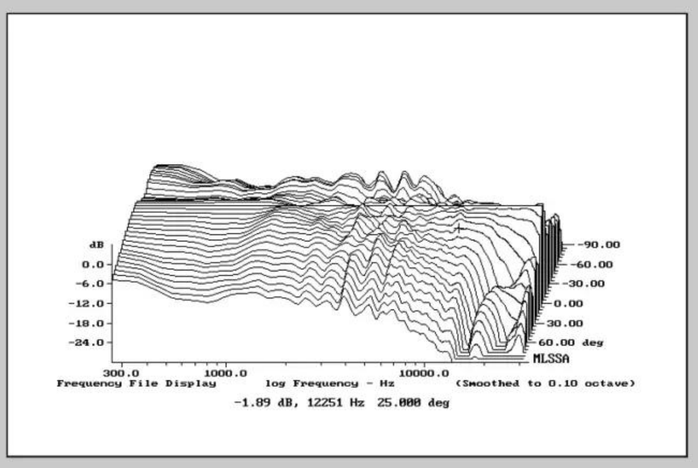


Fig.4 Wharfedale Dovedale, lateral response family at 50" with grille, normalized to response on tweeter axis, from back to front: differences in response 90°–5° off axis on side opposite drive units, reference response, differences in response 5°–90° off axis on drive unit side.

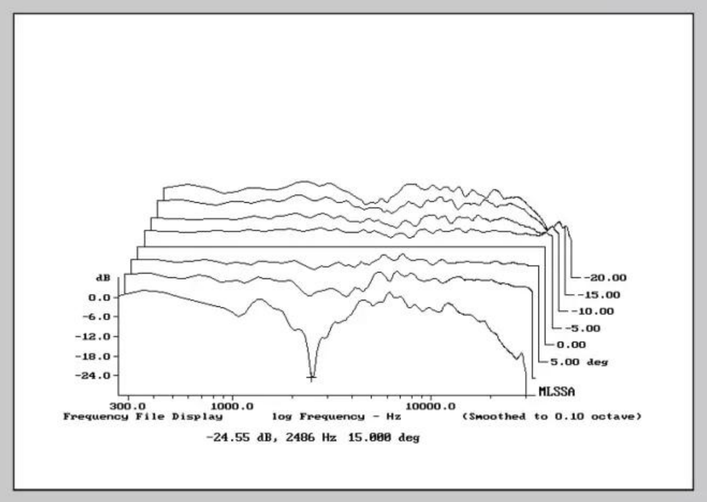


Fig.5 Wharfedale Dovedale, vertical response family at 50" with grille, normalized to response on tweeter axis, from back to front: differences in response 20°–5° above axis, reference response, differences in response 5°–15° below axis.

Black

The Black DAC System

Sending the purist signal with exceptional musicality to your amplifier

roon ready · TIDAL · qobuz · vTuner · USB · phono

bel canto 25 YEARS ADVANCED AUDIO DESIGN

bel canto

www.belcantodesign.com

Setup

Before I could start optimizing the Dovedales' placement in my listening room, I had to assemble the stands. The necessary tools were provided, the instructions were easy to follow, and in a matter of minutes, I had the two rigid, four-pillar steel stands ready, spiked cones beneath and felt pads on top. Once I had lifted the speakers onto the stands, I experimented with their positions to give the most even midbass and upper-bass balance. The Dovedale's manual says the speakers should be "clear of room corners." Their front baffles ended up 77" from the wall behind the speakers. The left-hand speaker was 33" from the LPs that line its nearest sidewall, the right-hand speaker 43" from the bookcases that line *its* nearest sidewall. I toed each speaker in to the listening position and, since Peter Comeau had said that the Dovedales sound best with their grilles on, I left them in place for my auditioning.

I used my Roon Nucleus+ to feed audio data over my network to an MBL N31 CD player/DAC, which was connected directly—no preamplifier—to a pair of Parasound Halo JC 1+ monoblocks. I single-wired each speaker with AudioQuest Robin Hood cable.

Listening

With the Dovedales sitting on their stands, the tweeters were 35" from the floor, an inch below my ear height. Listening to the dual-mono pink noise track on my *Editor's Choice* CD (Stereophile STPH016-2; no longer available), I didn't hear any significant change in tonal balance if I slouched a little, but the sound acquired

a slight hollowness in the upper midrange if I sat up high enough that I could see the tops of the cabinets. Removing the grilles resulted in a slight emphasis in the low-treble region.

Without realizing it, I initially had the speakers with the drive units on the asymmetrical baffles closest to their respective sidewalls, the opposite of the recommendation in the manual. (In my defense, the grilles were in place, and I couldn't see the drivers when I placed the speakers on their stands.) The dual-mono pink noise track on *Editor's Choice* was reproduced as a stable central

measurements, continued

that axis.

The red trace in fig.6 shows the spatially averaged response[2] of the Wharfedale Dovedales with their grilles in my room. With their ports open, the Wharfedales maximally excite my room's lowest-frequency mode. Their in-room response is even above 500Hz, with a slight excess of energy between 4kHz and 7kHz. The response in the midrange was a little more uneven than that of my long-term reference KEF LS50s (blue trace), though the latter's output in the top two audio octaves is suppressed compared with that of the Wharfedales. The gentle slope down above 3kHz in the LS50s' response is due to the increased absorption of the room's furnishings as the frequency increases; the Dovedales have a little too much mid-treble energy.

In the time domain, the Dovedale's step response (fig.7) indicates that the tweeter and midrange unit are connected in inverted acoustic polarity, the woofer in positive polarity. The decay of each unit's step smoothly blends with the start of the next driver's step, which implies optimal crossover implementation. The Dovedale's cumulative spectral-decay plot on the tweeter axis (fig.8) features a clean initial decay, though ridges of delayed energy are present in the low treble. (As always, ignore the apparent low-level ridge of delayed energy just below 16kHz, which is due to interference from the MLSSA host PC's video circuitry.)

The Wharfedale Dovedale offers generally excellent measured performance, especially that flat on-axis response and the extended low frequencies. However, both the demanding impedance and the slight excess of presence-energy in the in-room balance will make amplifier choice critical in getting the best from this speaker.

—John Atkinson

2 Using the FuzzMeasure 3.0 program, a Metric Halo MIO2882 FireWire-connected audio interface, and a 96kHz sample rate, I average 20 $^{1}/_{6}$-octave–smoothed spectra, individually taken for the left and right speakers, in a rectangular grid 36" wide × 18" high and centered on the positions of my ears. Averaging these in-room responses reduces the effect of room standing waves, and I have found this measurement, slightly weighted toward the spectra at the listening seat, to correlate with the perceived balance of loudspeakers in my room.

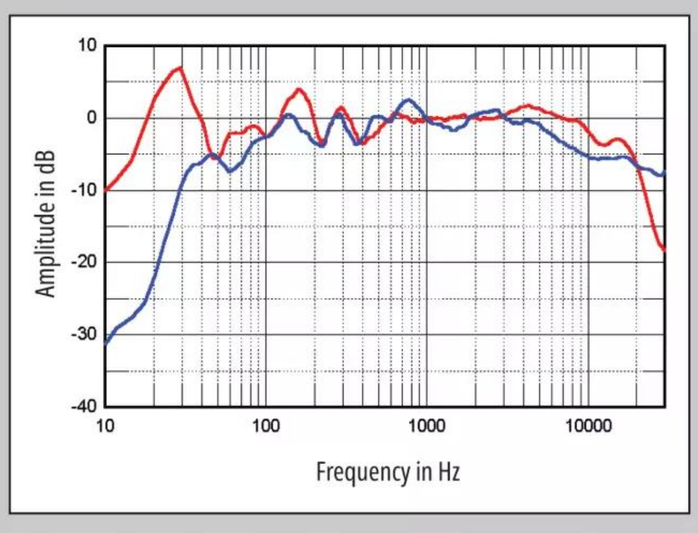


Fig.6 Wharfedale Dovedale, spatially averaged, $^{1}/_{6}$-octave response in JA's listening room (red) and of the KEF LS50 (blue).

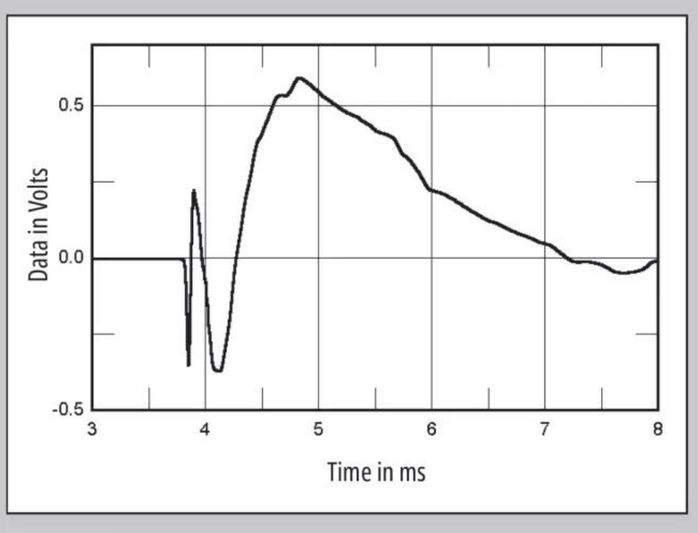


Fig.7 Wharfedale Dovedale, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

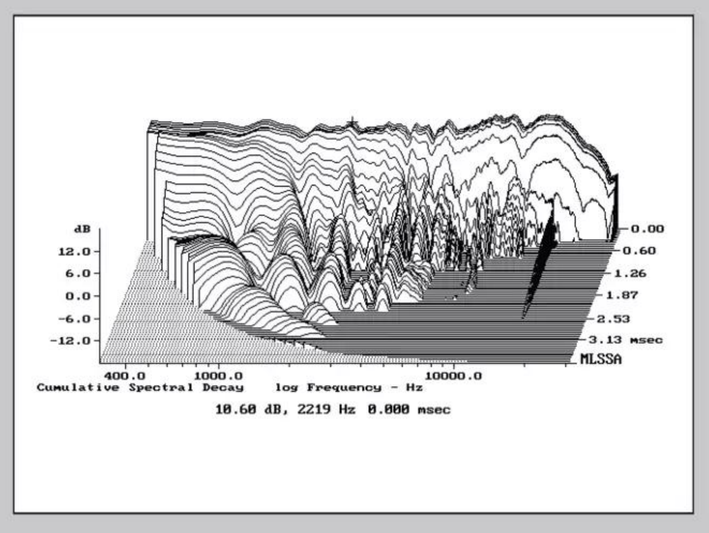


Fig.8 Wharfedale Dovedale, cumulative spectral-decay plot on tweeter axis at 50" (0.15ms risetime).

PLATINUM 8

The best. For real.

And we can prove it with the most effective listening tests in the audio industry. Even though our previous series received worldwide acclaim, these cables surpass them in providing the most lifelike reproduction available, regardless of cost.

PLATINUM ECLIPSE 8
SPEAKER & INTERCONNECT

PLATINUM STARLIGHT 8
USB, DIGITAL AUDIO & ETHERNET

PLATINUM STARLIGHT 48 HDMI

PLATINUM ELECTRA POWER CONDITIONING CORD

"...voice at a level of purity previously unheard, utterly uncolored yet fully characteristic..."

ANDREW QUINT
The Absolute Sound, August 2023

"...Platinum Starlight 8 Ethernet recreates the most transparent, resolving, detailed, natural, and immersive performance..."

KERMIT HEARTSONG
Audio Key Reviews, July 2023

a David Salz innovation

© 2024 Wireworld, Inc.

Other cables filter your music.
Wireworld cables let the most music through.

Technology that channels musical expression.

www.wireworldcable.com

WIREWORLD®
CABLE TECHNOLOGY

Engineered for Reality™

image, but it was not as narrow as I am used to, and there was some splashing to the sides in the midrange. I swapped the speakers so that the drive units were now on the inner edges of the baffles. The image of the pink noise was now more stable, with only a small amount of "vertical venetian blind" effect (comb filtering) as I moved my head from side to side.

After the experiments with speaker placement, the Dovedales cleanly reproduced the 1/3-octave warble tones on the *Editor's Choice* CD down to the 40Hz band. The 32Hz tone was significantly reinforced by the lowest room mode, and while the 25Hz tone was audible I couldn't hear the 20Hz tone. There was no wind noise from the ports with the 20Hz tone, and the warble tones sounded very clean, with no audible "doubling" (adding second-harmonic distortion). The half-step–spaced tonebursts on *Editor's Choice* spoke cleanly down to 32Hz, with those between 2kHz and 4kHz slightly accentuated. Listening to the enclosure's walls with a stethoscope while the tonebursts played, I could hear some resonant behavior between 200Hz and 300Hz and around 1kHz, but the cabinet seemed well-damped overall.

As I usually use minimonitors, from KEF and GoldenEar, I almost never listen to organ recordings. Even with the equalization I use with Roon or Dirac Live to extend the low frequencies, it is all too easy to overload the small woofers. With the Dovedale's 10" woofer, I had no such qualms. I played Jonas Nordwall's performance of the *Toccata* from Widor's *Organ Symphony No.5* (24/88.2 AIFF file), which I had recorded in a church in Portland, Oregon, in 2014.[4] This track has a lot of high-level content below 40Hz. The Dovedales had no problems playing it at high levels without strain, with a peak C-weighted SPL of 101dB at the work's climax. (At this listening level, the MBL's volume control was set just 3dB below the maximum level possible with the Parasound amplifiers!)

I followed the Widor with Vaughan-Williams's arrangement of the Welsh folk tune "Rhosymedre," played by Philip Ledger on *Organ Music from King's* (24/192 needle drop from LP, EMI HQS-1356). This is a much gentler, more contemplative work than the Widor. The organ's bass pedals evenly underpinned the music, which was set back in the King's College Chapel's supportive acoustic, captured naturally by engineer Bob Gooch. However, the LP's surface noise was more apparent than I remembered.

Loudspeakers that offer extended, powerful-sounding bass often sacrifice low-frequency clarity. But Ray Brown's double bass on "Limehouse Blues," from André Previn's jazz trio album *After Hours* (16/44.1 FLAC, Telarc/Qobuz), and Jerome Harris soloing on a Taylor acoustic bass guitar on "Sway Low," from *Rendezvous* (16/44.1 ALAC file, STPH013-2[5]), were reproduced by the Dovedales with excellent upper-bass articulation. I didn't feel any need to block any of the Dovedale's ports.

The Dovedale's midrange did justice to recorded voices. Minnesota's male-voice choral group Cantus sounded natural and uncolored singing Eric Whitacre's "Lux Aurumque" on my recording of *While You Are Alive* (24/88.2 ALAC, Cantus Recordings 1208), though the soundstage was less deep than I intended when I mixed the track. Triggered by the news of Melanie's passing at the end of January, I streamed her 1970 recording of "Lay Down (Candles in the Rain)" from Qobuz (16/44.1 FLAC, Buddah Records). The Wharfedales did well with Melanie's voice in the verses, but the Edwin Hawkins Singers in the chorus took on some mid-treble emphasis that had me reaching for Roon's volume control. By contrast, while there was some slight sibilance emphasis on Suzanne Vega's unaccompanied "Tom's Diner" (24/96 FLAC, from *Solitude Standing*, A&M/Qobuz), the singer's midrange sounded clean, as it did on Tracy Chapman's "Fast Car (LP Version)" (16/44.1 FLAC, Qobuz/Elektra).

Piano recordings are very revealing of midrange colorations.

ASSOCIATED EQUIPMENT

Digital sources Roon Nucleus+ file server; Ayre Acoustics C-5xe^{MP} universal player; MBL N31 CD player/DAC; Ayre Acoustics QA-9 A/D converter; NetGear Nighthawk router.
Power amplifiers Parasound Halo JC 1+ monoblocks.
Loudspeakers KEF LS50.
Cables Digital: AudioQuest Vodka (Ethernet), AudioQuest Coffee (USB), DH Labs (1m, AES3). Interconnect: Ayre/Cardas (balanced). Speaker: AudioQuest Robin Hood. AC: AudioQuest Dragon Source & High Current, manufacturers' own.
Accessories 24"-high, single-pillar Celestion loudspeaker stands with KEFs, Target TT-5 equipment racks, Ayre Acoustics Myrtle Blocks; ASC Tube Traps, RPG Abffusor panels; AudioQuest Niagara 5000 Low-Z Power/Noise-Dissipation System (amplifiers) and AudioQuest Niagara 1000 Low-Z Power/Noise-Dissipation System (source components). AudioQuest Fog Lifters cable supports. AC power comes from two dedicated 20A circuits, each just 6′ from breaker box.
Room 20' (left side), 25' (right side) × 16' × 8'.—**John Atkinson**

Thomas Conrad favorably reviewed Adam Birnbaum's *Preludes* (16/44.1 FLAC, Chelsea Music Festival/Qobuz) in the January 2024 issue. Birnbaum's solo at the beginning of the Prelude in E Minor revealed some liveliness in the upper mids, but not sufficient to interfere with the music. And when bassist Matt Clohesy started playing, his instrument was reproduced powerfully but with good clarity.

Adam Birnbaum was the soloist on Sasha Matson's *Concerto for Piano & Jazz Orchestra* (from *Molto Molto*, 24/96 WAV files, Stereophile STPH023), which I produced. The Dovedale's highs on this album didn't sound exaggerated, and the soundstage was accurately presented, with the images of the individual instruments unambiguously positioned between and behind the plane of the speakers. I was intrigued by how such large speakers could completely disappear, leaving a wide, deep soundstage, but disappear they did.

I finished my critical auditioning of the Wharfedale Dovedales with Jerome Sabbagh's *Vintage* (24/192 FLAC, Sunnyside/Qobuz), which was *Stereophile*'s February 2024 Recording of the Month. Like *Molto Molto*, this album was engineered by Ryan Streber at New York's Oktaven Studio. Again, the speakers disappeared, leaving Sabbagh's tenor saxophone hanging in space close to the left-hand Dovedale and Joe Martin's powerful-sounding double bass centered in the middle of the image of Kenny Barron's piano. Johnathan Blake's drums stably stretched from far left to far right on the stage and were set a little way behind the images of the other three instruments. His cymbals sounded natural, without any exaggeration of their high-frequency "swish."

Conclusion

I wasn't sure what to expect from the Wharfedale Dovedale. With its wide baffle and its resemblance to the old-fashioned "big-box" speakers from the 1960s, I was anticipating an old-fashioned sound. That's not what I got—at all. While the Dovedale's mid-treble could sound a little too forward with some recordings, this for me was outweighed by the speaker's powerful, extended low frequencies, natural-sounding midrange, and generally clean high frequencies. Recommended. ■

4 Readers are welcome to download this recording from dropbox.com/s/wjjuj9keg0kvkow/Widor_mixdown.aif?dl=0.

5 This CD is out of print but the files can be downloaded or streamed from jeromeharris.bandcamp.com/album/rendezvous.

Paradigm®

Founder
SERIES

When Art Embraces Science, Anything is Possible.

Founder is no ordinary loudspeaker. We've treated every part, large and small, as if it were the most crucial piece of the whole. Every component has been thoroughly researched, designed, engineered, and tested. Not only are the drivers completely new, so is their mounting hardware, the cabinet's internal structure and shape, and even the feet. By leaving no element unaddressed, we've created something that is much greater than the sum of its parts.

Shown: Founder 40B

MADE IN CANADA

Designed, engineered, and fully Made in Canada, by people who love great audio *(just like you)*.

Scan to learn more about Founder Series

HERB REICHERT

ARCAM Radia A25

INTEGRATED AMPLIFIER

I've been to a few bowling parties and passed a bottle around a few fire pits, but I've never watched an audiophile unboxing video. Lately though, I *have* been paying closer attention to my first impressions of each new audio product as it enters my realm.

I'm finding it interesting to notice how a device previously unseen and unheard declares itself one small step at a time as I open its box, feel its heft, observe its form, study its manual, and, finally, wire it into my system. Those start-up experiences, plus my gut feelings during my first moments of music listening, establish a tone of innocent discovery I wish would last the whole month. It never does.

I mention this because my first impressions for my first-ever review of an ARCAM product, the Radia A25 integrated amplifier, were in that "innocent and receptive" mode from the instant I saw the box sitting outside my door. The 26.5lb box looked Jimmy Stewart–trim and reasonably sized (8" × 23" × 17"), and it was easy to lift. My first impression was that ARCAM had their box and packing game together.

The first tell was the brown paper tape, which, with three quick box-cutter cuts, revealed an inner "tuck top" box with a giant letter "A" printed on its cover, formed from thin black lines suggesting piano keys. This tuck-topped box opened to reveal a brown, cast-paper eggcrate-type spacer with a small brown cardboard box nested in its center. That small box contained a sharp-looking (plastic) remote and an IEC power cord. The A25's nine-language quick-start guide was in a brown paper envelope affixed with brown tape to the inside of the top cover. The A25 itself was sheathed in a white paper-cloth bag.

This was my first-ever encounter with smartly engineered, artfully executed, 100% biodegradable packaging, and it felt like a sincere handshake.

ARCAM

Back in the day, in Great Britain, Amplification & Recording Cambridge Ltd., t/a ARCAM, made slim-profiled integrated amplifiers reputed to work well with England's most popular speaker: the Wharfedale Diamond shelf-mount. That's all I knew about ARCAM before I started writing this report.[1]

ARCAM's website says "The 'A' in ARCAM stands for Amplifica-

1 For what it's worth, an ARCAM integrated—I don't recall which model—was one of my earliest audiophile purchases, not counting the stuff I bought in my youth. I was happy with it for a while, with my Vienna Acoustics Bach loudspeakers, but I had been bitten by the bug and the rest is, if not history, then reasonably well-known.—**Jim Austin**

SPECIFICATIONS

Description Solid state, class-G stereo integrated amplifier outputting up to 100Wpc (20dBW) into 8 ohms, 165Wpc (19.2dBW) into 4 ohms. Analog inputs: 3 single-ended, one MM phono, all on RCA. Digital inputs: 2 S/PDIF coaxial, 1 TosLink, and 1 USB-C. The DAC is based on a ES9280A PRO chip with three user-selectable filters, supporting PCM sampling rates up to 384kHz and DSD up to DSD1024. Bluetooth including Qualcomm AptX Adaptive, AAC, and SBC. Analog outputs: variable pre-out (RCA), and (1/8" 3mm) front panel headphone jack.
Dimensions 17" (431mm) W × 3.27" (83mm) H × 13.5" (344mm) D. Weight 19.8lb (9kg).
Finish Black
Serial number of unit reviewed HJ0009-IN0001104.
Designed in Cambridge, England, built in China.
Price $1499. Approximate number of US dealers: 212.
Warranty: 2 years.
Manufacturer ARCAM
The West Wing, Stirling House, Waterbeach, Cambridge CB25 9QE, UK.
US distributor:
Harman Luxury Audio Group, 8500 Balboa Blvd., Northridge, CA 91329.
Tel: (888) 691-4171.
Web: arcam.co.uk.

SINCE 1997

No talking, only Music!

ESPRIT

www.esprit-audio.fr

Meilleur achat HAUTE FIDELITE

HAUTE FIDELITE référence

2022 the absolute sound EDITORS' CHOICE AWARDS

2023 the absolute sound EDITORS' CHOICE AWARDS

EDITORS Choice 2022 MONO&STEREO

VUMETRE REMARQUABLE

hi-fi+ EDITOR'S CHOICE 2020

hi-fi+ HIGHLY COMMENDED 2021

DIAPASON HI-FI D'OR

HiFi PiG MAGAZINE

HIGHLY Hifi Pig RECOMMENDED

tion—this is our core competence. The A25 is the latest in more than 45 years of amplifier design and manufacture, going back to our first product in 1976—the A&R Cambridge A60 amplifier."

Description

ARCAM's flagship Radia A25 is a slender, nicely sculpted, matte-black, 19.8lb integrated amplifier that operates in class-G and is specified to output 100W into 8 ohms and 165W into 4 ohms.

The A25 is designed in Cambridge, UK, and built in China. Its back panel features stereo pairs of loudspeaker binding posts plus three unbalanced RCA inputs and one RCA input for a moving magnet phono cartridge. There are also four digital inputs: two coaxial, one optical, and one USB-C. The A25's DAC uses an ESS Sabre ES9280A Pro DAC chip, which allows a choice of three reconstruction filters and supports PCM sampling rates up to 384kHz and DSD up to DSD1024. There is also a variable (volume-controlled) pre-out on RCA, 12V triggers In and Out (also on RCA), an IR sensor input, and Control input over a LAN (RJ45) connection, and a USB Service port. The 19.8lb chassis measures a slim 3.27" high, 17" wide, and 13.5" deep including those binding posts. Bluetooth—specifically several flavors of aptX including aptX Adaptive, Apple's AAC, and the baseline SBC—is also featured. The A25's Bluetooth is two-way: It can receive music data from a phone or tablet or send it out to a pair of wireless headphones.

The A25's "buttonless" front panel looks smartly styled by day and extraordinarily nice in the dark, where thin, creamy-yellow bands of light halo the Volume and Input Selector dials. Its slender LCD display is just the right size—and brightness-adjustable—to feel polite and subdued yet perfectly legible from 10' away. Its 6" × 1.5" × 0.5" plastic remote looked expensive and felt right in my hand.

The A25's 3.5mm headphone jack hides in the amp's lower left front corner. Opposite top right is a tiny white LED that lights bright when the unit is fully powered and becomes dimmer when it goes into standby.

MEASUREMENTS

I performed a full set of measurements on the ARCAM A25 using my Audio Precision SYS2722 system.[1] The amplifier is specified as having a maximum output power of 100Wpc into 8 ohms; I preconditioned the A25 before the measurements by following the CEA's recommendation of running it at one-eighth that power into 8 ohms for 30 minutes. Following that period, the top panel was warm, at 98.4°F (36.9°C), and the grilles over the internal heatsinks warmer, at 102.8°F (39.3°C).

Looking first at the A25's unbalanced line inputs, the amplifier preserved absolute polarity at all of its outputs. The volume control operated in accurate 0.5dB steps, and with the volume control set to the maximum, "99," the voltage gain at 1kHz was 44.6dB into 8 ohms from the loudspeaker outputs, 27.8dB from the headphone outputs, and 13.5dB from the Preamplifier outputs. The line input impedance isn't specified. I measured just below 10k ohms from 20Hz to 20kHz.

The Preamplifier output impedance was 35 ohms at 1kHz and 20kHz, rising to 228 ohms at 20Hz, which is presumably due to the presence of a series output-coupling capacitor. The headphone output impedance was a low 1.3 ohms at all audio frequencies. The loudspeaker output impedance, including 6' of spaced-pair speaker cable, was low in the bass and midrange, at 0.13 ohm, rising to 0.16 ohm at the top of the audioband. Consequently, the modulation of the A25's frequency

1 See stereophile.com/content/measurements-maps-precision.

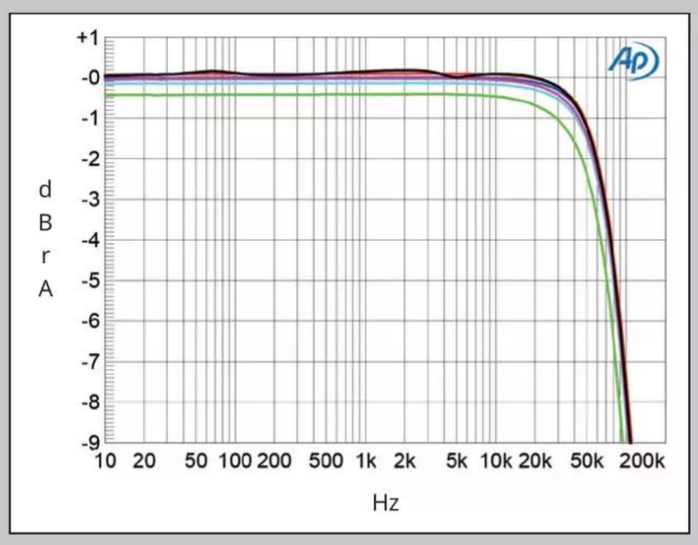


Fig.1 ARCAM A25, line input, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), 2 ohms (green) (1dB/vertical div.).

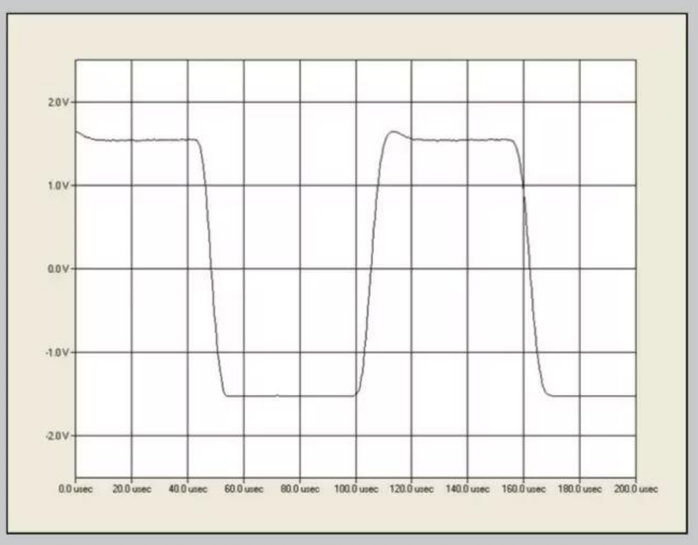


Fig.2 ARCAM A25, line input, small-signal, 10kHz squarewave into 8 ohms.

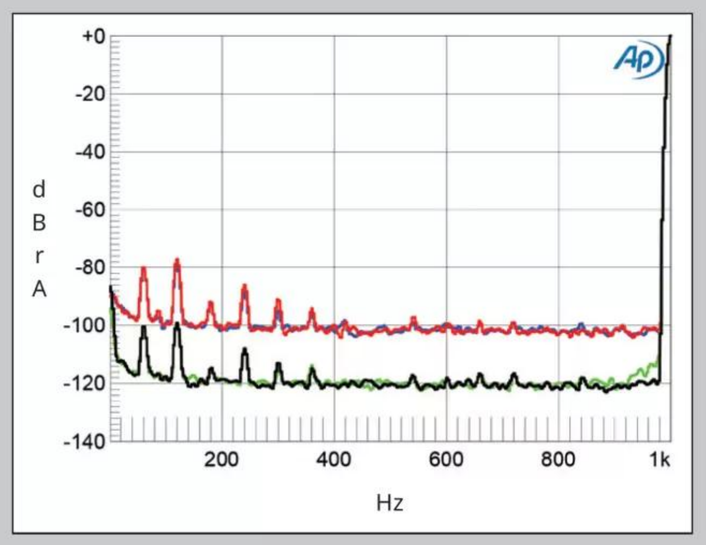


Fig.3 ARCAM A25, line input, spectrum of 1kHz sinewave, DC–1kHz, at 1Wpc into 8 ohms with volume control set to the maximum (left channel blue, right red), and to –20dB (left green, right gray) (linear frequency scale).

CARBON

HANDCRAFTED IN THE USA
LIMITED LIFETIME WARRANTY

INTERCONNECT

XLR termination (also available with RCA)

"Carbon only serves one master–the music itself."

Neil Gader · The Absolute Sound · Issue 322

2022 the absolute sound EDITORS' CHOICE AWARDS

KIMBER KABLE®

www.kimber.com - 801-621-5530

In use, the A25's subtly styled gray-black chassis came off as uptown bureau-top ready, like a product that should cost a lot more than its $1499 price.

Listening with Heretic AD614s

I began my listening with the ARCAM A25 powering the Heretic AD614 speakers and a Roon-streamed digital remastering of one of my all-time most-played LPs (Columbia LP ML 4587): the Budapest String Quartet performing Beethoven's sublimely formed *Grosse Fuge* in B-Flat Major, Op.133.

The original 1953 Columbia mono disc produced an exceptionally dense, life-like sound that intensified the effect of the Budapest String Quartet in delivering this soul-stirring performance. That old black disc is gone, but the hi-rez remastering (24/192 FLAC, Columbia/Qobuz), played through the Denafrips Terminator Plus DAC into the A25's analog input, made exceedingly smooth, instantly engaging sound laced with tone that was more saturated and tempo-keeping that was more toe-tapping than expected. Playing Op.133, the ARCAM exceled at sorting all the sound molecules and not mucking them up. It felt good to hear a $1499 integrated amp make a piece of difficult music *this* affecting. Its natural ease invited me to lean forward and close my eyes.

Right now, my system is silent, but as I type these words, I can still hear Op.133 playing inside my head. I keep trying to imagine what was going on inside of Beethoven's head as he composed these dark, quivering forms. Driving the Heretic speakers, the A25 presented the Maestro's *Grosse Fuge* as a daring artistic invention performed by a brilliant quartet operating in peak form.

Driving LS3/5a

The first thing I noticed when I switched from the 97dB-sensitive Heretic AD614 speakers to the 83dB-sensitive Falcon Gold Badge LS3/5a is how much I had to turn the volume up; 14dB is a lot of gain to lose and make up for. The second thing I noticed is how little room air the Falcons move in comparison to the Heretics.

Besides moving less air, the chief sonic difference between the Heretic and Falcon speakers is how the sealed-box Falcons place performers farther back and spread them out more. The other sonic difference is a consequence of the first: With the A25 driving the LS3/5as, the Budapest String Quartet's performance of Beethoven's Op.133 seemed less raw, real, close-up, and direct than it did with the Heretics. Less edgy, more compressed, more pipe'n'slippers British.

The greatest weakness of this amp-speaker pairing was its lack of punch or sparkly zing. Bass was tight, tuneful, and well-managed but more prosaic than visceral. The A25 + LS3/5a combo's greatest strength was how explicitly it invited close listening while never being boring or fatiguing.

Driving headphones

Once again, the ARCAM Radia A25 made a brilliant first impression. Its single 3.5mm headphone output powered Grado's $295 Prestige SR325X dynamic headphones like it was designed specifically for the task. I'm reading Robert "Mack" McCormick's *Biography of a Phantom* (Smithsonian Books), so my mind is wandering Friars Point, Mississippi, looking for Robert Johnson's sassy girlfriend "Betty," who's "got a mortgage on my body and a lien on my soul," while playing Columbia's paradigm-shifting 1961 LP, *King of the Delta Blues Singers* (16/44.1 FLAC Columbia/Qobuz). This recording did not sell many copies, but every rock and blues musician of the 1960s was impacted by it. Powered by the A25, the 32 ohm, 98dB/mW SR325Xs exposed all the darkness and vibrant

measurements, continued

response due to the Ohm's law interaction between this impedance and the impedance of our standard simulated loudspeaker[2] was minimal (fig.1, gray trace). The amplifier's response into resistive loads was flat in the audioband, with its output into 8 ohms (blue and red traces) down by 3dB at 70kHz. Both the very close channel balance and the overall response were preserved at lower settings of the volume control and from the headphone output. The A25's reproduction of a 10kHz squarewave (fig.2) had short risetimes, but with a hint of damped overshoot on the positive-going peaks.

Channel separation was good, at >70dB across the audioband in both directions. The wideband, unweighted signal/noise ratio, taken with the unbalanced input shorted to ground and the volume control set to its maximum, was an okay 62.1dB ref. 2.83V, which is equivalent to 1W into 8 ohms, in both channels. This ratio improved to 67.6dB when the measurement bandwidth was restricted to the audioband, and to 70.4dB when A-weighted. Repeating the S/N ratio measurements with the volume control set to –20dB increased the S/N ratios by 18dB. This improvement with the lower volume control setting can be seen in fig.3. The blue and red traces show the amplifier's low-frequency noise-floor at 1Wpc into 8 ohms with the volume control set to its maximum; the green and gray traces show the noisefloor spectrum at the control set to –20dB and with the input signal increased by the same 20dB

2 See stereophile.com/content/real-life-measurements-page-2.

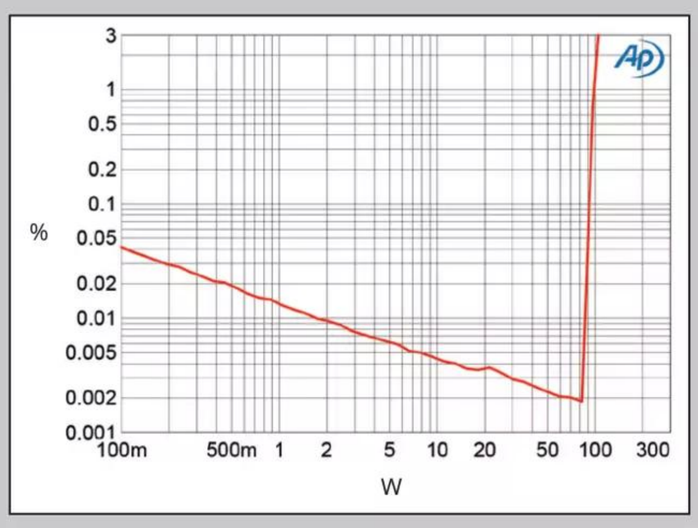


Fig.4 ARCAM A25, line input, distortion (%) vs 1kHz continuous output power into 8 ohms.

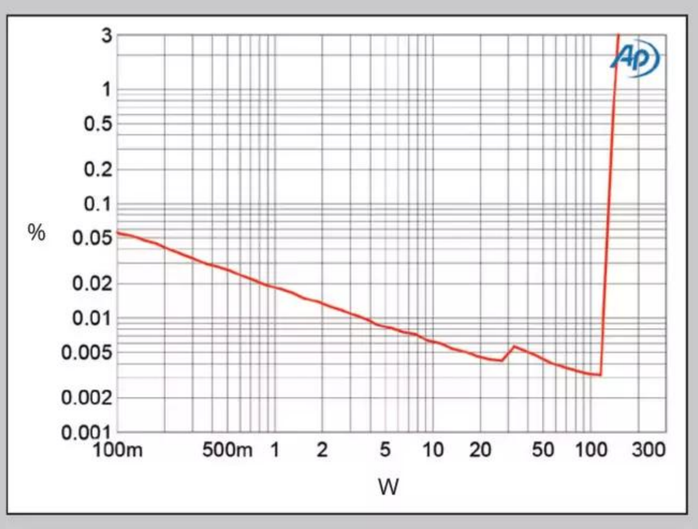


Fig.5 ARCAM A25, line input, distortion (%) vs 1kHz continuous output power into 4 ohms.

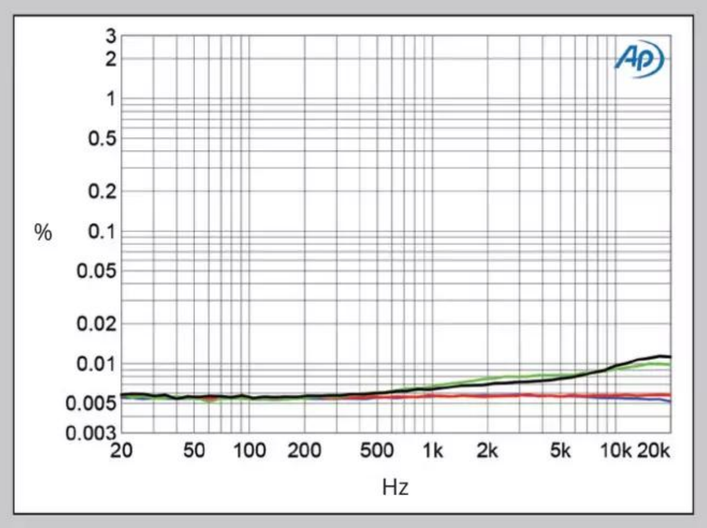


Fig.6 ARCAM A25, line input, THD+N (%) vs frequency at 12.67V into: 8 ohms (left channel blue, right red), 4 ohms (left green, right gray).

estelon

Meet the new AURA

www.estelon.com

energy of Johnson's spooky poetry. The Phantom's haunting voice and stupefying guitar accompaniments came through these Grados with *all* their sharecropper-minstrel mojo intact.

The A25 manual says the A25's headphone output will drive headphones between 16 and 2k ohms, delivering 2.5V into 32 ohms, and 5V into 300 ohms. Naturally I had to try my 250 ohm Beyerdynamic DT 880 Pro headset. I played "Cross Road Blues" at a loud volume, and the 880s played studio-monitor clean but a little darker and slower than Grado's bright-and-awake, low-impedance SR325Xs.

Meze Audio's $795 109 Pro dynamic headphones (see Gramophone Dreams elsewhere in this issue) is my current favorite headphone for everyday all-genre use. The 109 Pro is beautifully crafted and exquisitely balanced tone-wise. Like ARCAM's A25, the sound is predominantly smooth and mesmerizing, precisely how they sounded playing Ito Ema's performance of Bach's *Goldberg Variations* on a Steinway & Sons Model D piano (M•A Recordings CD M024A). With the 40 ohm, 112dB/mW Meze 109 Pros, powered by the A25's headphone amplifier, the sound was akin to perfect: creamy textured, easy-flowing, precise, and pure of tone. Never had this Bach seemed dreamier or more exciting to follow. A divine pairing.

Apparently the "A" in ARCAM *does* stand for Amplification, and this headphone amplifier achieved an A+ for amplification excellence.

Bluetooth

The A25 gave me an excuse to see how good Bluetooth is sounding these days. The answer: better—but still not audiophile quality. What I heard streaming Tidal and YouTube from my iPhone 11 sounded moderately purer and more spatially descriptive.[2]

The phono input

I auditioned the ARCAM's moving magnet–only phono input with three well-known, well-respected cartridges, two moving magnets—Ortofon's $695 2M Black and Audio Technica's $69 AT-VM95E—and Grado Labs' $400 Platinum3 High Output moving iron.

I started with the Ortofon because I wanted to see how refined the A25's phono stage could sound. The 2M Black uses a nude Shibata stylus to scrape disc grooves clean and make listeners feel like they are getting all the micro-information they paid extra for. Ortofon's 2M Black is the smoothest, quietest, best-tracking, most-detailed moving magnet cartridge I know, but it is rarely the most expressive.

With Prima Luna's $3695 EVO 100 phono stage, the 2M Black sounds a little dark and serious but produces an extremely deep soundspace with dense galaxies of detail and naturally saturated tones. Most audiophiles would love it. With the Prima Luna, the 2M's dynamics are good, and its speed is good, but thrills and engagement-wise, it's not Dorothy-in-Oz wondrous.

The A25's phono section made the 2M Black feel more dynamically charged, its spaces more brightly lit. I enjoyed the Black *more* with the A25. On the other hand, the ARCAM's phono stage also made the Ortofon sound less detailed and transparent than it did through Rogue Audio's Sphinx V3 or any of my fancy stand-alone phono stages.

2 It is important to mention here that because the iPhone doesn't support AptX Adaptive (or any AptX Bluetooth), it's unlikely I heard the ARCAM's Bluetooth at its best. If you intend to use Bluetooth—and if optimal quality on Bluetooth is important to you—make sure the sending device supports this AptX codec.

measurements, continued

so that the output level remains at 2.83V. The levels of both random noise and the harmonics of the AC supply frequency are reduced by almost 20dB at the lower setting of the volume control.

Figs.4 and 5 respectively plot how the THD+noise percentage varies with output power into 8 ohms and 4 ohms with both channels driven. The downward slope of the traces indicates that the distortion lies below the noise up to the actual onset of clipping. At our usual definition of clipping, which is when the THD+N reaches 1%, the A25 met its specified output power of 100Wpc into 8 ohms (20dBW) but fell slightly short of the specified 165W into 4 ohms (19.16dBW), clipping at 150Wpc into this load (18.75dBW).

Fig.6 shows how the THD+N percentage changed with frequency at 12.67V, which is equivalent to 20W into 8 ohms and 40W into 4 ohms. The distortion into 8 ohms (blue and red traces) and 4 ohms (green and gray traces) is very low. It rises into 4 ohms by only a little in the top two octaves, which suggests that the amplifier has a wide open-loop bandwidth.

The THD+N waveform at 40W into 4 ohms (fig.7) is difficult to interpret but appears to be primarily the third harmonic. Spectral analysis (fig.8) indicates that the second harmonic is present at almost the same level as the third, but both lie close to –100dB (0.001%), which is also the level of the spurious, supply-related tone at 120Hz. Intermodulation distortion was also superbly low in level, even into 4 ohms (fig.10).

To examine the performance of the

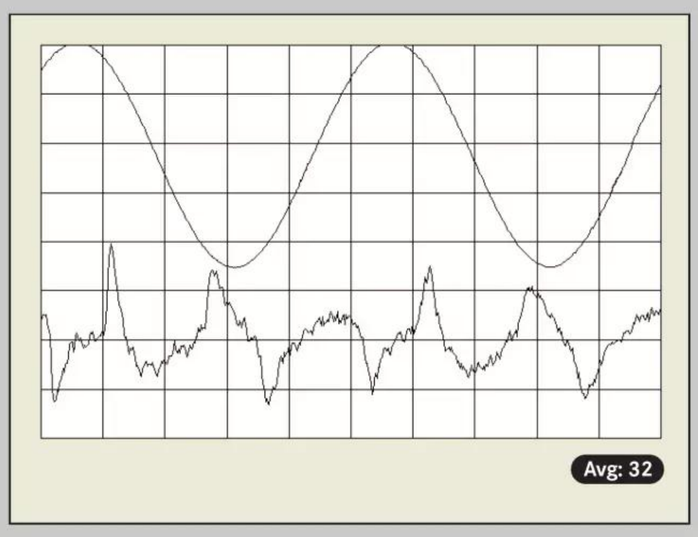


Fig.7 ARCAM A25, line input, 1kHz waveform at 40W into 4 ohms, 0.0021% THD+N (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

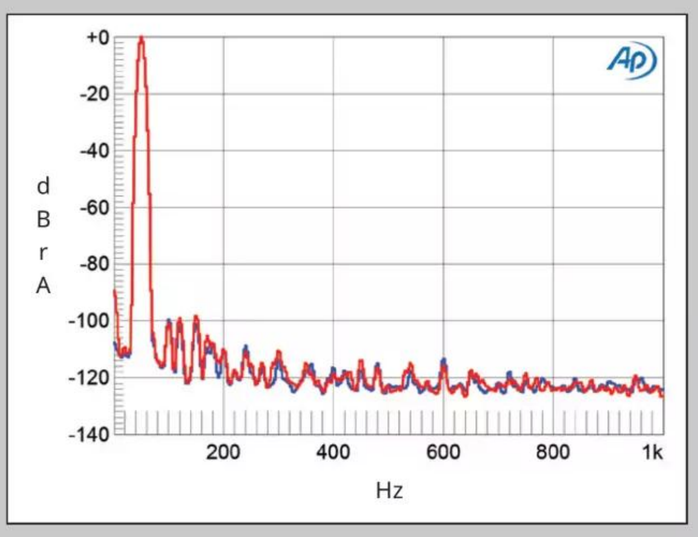


Fig.8 ARCAM A25, line input, spectrum of 50Hz sinewave, DC–1kHz, at 40Wpc into 4 ohms (left channel blue, right red, linear frequency scale).

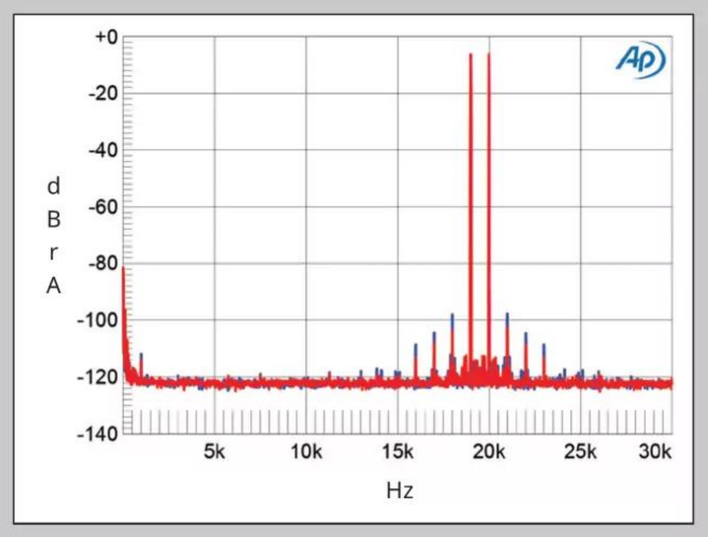


Fig.9 ARCAM A25, line input, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 40Wpc peak into 4 ohms (left channel blue, right red, linear frequency scale).

HARMONIA DISTRIBUTION

WE PLACE PRODUCTS FROM THE WORLD'S LEADING AUDIO BRANDS WITH THE MOST KNOWLEDGEABLE AND WELCOMING RETAILERS IN THE COUNTRY.

WE BACK THIS UP WITH DEDICATED SALES AND SUPPORT TEAMS.

WE PROUDLY REPRESENT:

PrimaLuna®

Feliks-Audio

FYNE AUDIO

booster
The audiophile power supply solution

PATHOS

Cabasse

KISEKI

HARMONIADISTRIBUTION.COM | INFO@HARMONIADISTRIBUTION.COM | 909.931.0219

No one would accuse Audio Technica's AT-VM95E of being left-brain microspecific or right-brain luxurious, but no one who's ever used it doubts its ability to "get the music out" of the grooves. This nearly free moving magnet plays records in a consistently exciting and satisfying manner. I played Barbra Streisand's first album, *The Barbra Streisand Album* (Columbia LP CL2007), and all the "Barbra" most folks would hope for came bursting out of my speakers. On "Who's Afraid of the Big Bad Wolf?," her voice, attitude, and dramatic phrasing were presented with Vegas-level energy and enough Barbra Streisand heart to make female vocal aficionados smile and nod in appreciation.

To my taste, the 2M Black seemed a little too refined for the ARCAM. The AT-VM95E delivered high-energy excitements but was maybe a little *under*-refined. But, but, but! Grado's $300 High Output Platinum3 moving iron made a perfect match. The Platinum3's Technicolor sonics complemented the ARCAM phono's punch and solidity while adding a measure of glow and warmth to its overall effect.

The A25's phono stage showed me its most seductive side while amplifying the Platinum3 playing dreamy, delicate, spacious-sounding records such as *Pallavi: South Indian Flute Music* (Nonesuch LP H-72052) or *Saudades* on Water Lily Records (WLA-CS-16). Grado-ARCAM was a recommendable matchup.

The A25 DAC

Unlike ARCAM's A5 and A15 integrated amplifiers, which offer only optical and coaxial digital inputs, the A25 adds a USB-C input, which I wired directly to my Mac mini, allowing me to stream Qobuz through the A25's DAC. The resulting sound was strong, bright, fast, and clean. Images were firmly outlined with above-average body and presence. The Budapest String Quartet performing the *Adagio ma non troppo* from the *Harp Quartet*, Op.10, from *The Complete String Quartets of Ludwig van Beethoven* (24/192 FLAC, Columbia/Qobuz) sounded direct (as in slightly raw) and emotionally accessible but also less rich and atmospheric than it was with the $750 Denafrips Aries II DAC. Interestingly, this clean, "slightly raw" effect played well into my Falcon Gold Badges, as it put a little light and edge-definition into what had seemed dark and a little soft with the Aries II.

Now I was curious to hear another ancient LP, a forever-loved Herb-favorite, Egyptian *oud* player Hamza El Din's 1964 stereo issue (Vanguard LP VSD-79164) of *Music of Nubia* (16/44.1 FLAC Vanguard/Qobuz). With this recording, the A25's DAC made a good impression: It showed El Din's righteous string work enlarged and enhanced, framed by the harmonics of real wood emanating very obviously from his *oud*'s soundboard (*wajh*). *Oud* means wood, and in addition to its mesmeric rhythms, a chief pleasure of El Din's *oud* playing is the presence of the *oud*'s wood body hovering between the speakers. With the A25 DAC, *oud* string transients felt not too sharp or dull, in just the right 1:1 balance with the soundboard. Reverb was reproduced cleanly and relatively unmolested.

As I expected,[3] I had even better results accessing the A25's DAC via its coaxial input. Using Kimber Kable's D60 coax, I connected the digital output of my Onkyo C-7030 CD player to the A25 and pushed Play on the *Monk* CD from *The Thelonious Monk Quartet:*

3 Expected because, in my experience, CDs almost always sound more solidly three-dimensional and force-driven than streamed music. I'm still waiting for all you smarties to tell me why.

measurements, continued

A25's DAC, I used the coaxial and optical S/PDIF inputs, both of which accepted data sampled at rates up to 192kHz, and USB-C data sourced from Roon on my iPad mini. (My MacBook Pro, which I usually use to test devices with USB ports, doesn't have a USB-C port, and the USB A–C adapter cables I had to hand had the wrong gender USB-A connector.)

The ARCAM's digital inputs preserved absolute polarity from all the outputs. With the volume control set to the maximum, the A25's output level into 8 ohms at the speaker outputs with a 1kHz tone at –25dBFS was 19.92V, which is just 3dB below the clipping voltage. With a 1kHz tone at –20dBFS, the output level was 4.725V at the headphone output and 972mV from the Preamplifier output. As is often the case with integrated amplifiers, the A25's DAC offers much higher gain than is necessary.

The Menu/Settings button on the ARCAM A25's front panel and on the remote control doesn't offer a choice of reconstruction filters. Fig.10 shows the A25's impulse response with 44.1kHz S/PDIF data. The filter is a short minimum-phase type. However, the impulse response with USB data (fig.11) was different. This response is typical of the ESS DAC chip's hybrid filter,[3] with most of the ringing following the single high sample.

The magenta and red traces in fig.12 show the USB filter's ultrasonic rolloff with data sampled at 44.1kHz. They reach full stop-band attenuation at half the sample rate (this indicated by the vertical green

3 See, for example, fig.4 at stereophile.com/content/topping-dm7-8-channel-da-processor-measurements.

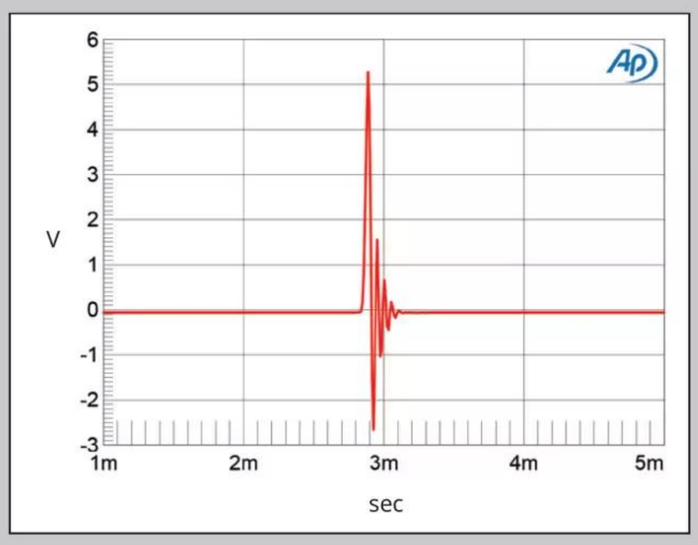


Fig.10 ARCAM A25, TosLink input, impulse response (one sample at 0dBFS, 44.1kHz sampling, 4ms time window).

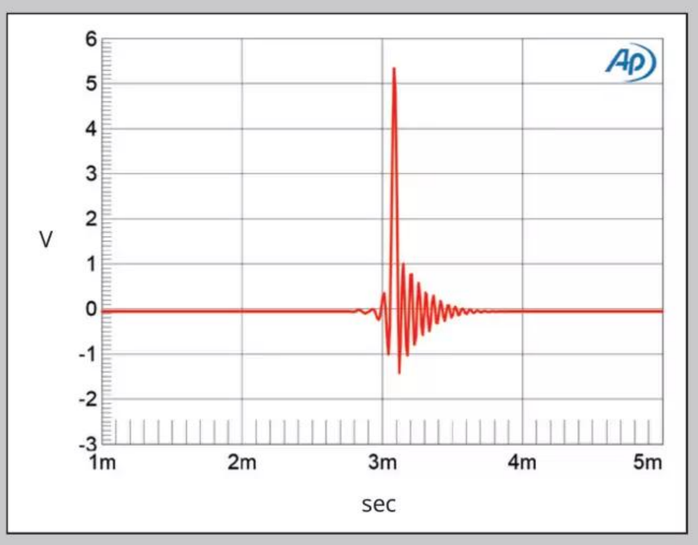


Fig.11 ARCAM A25, USB-C input, impulse response (one sample at 0dBFS, 44.1kHz sampling, 4ms time window).

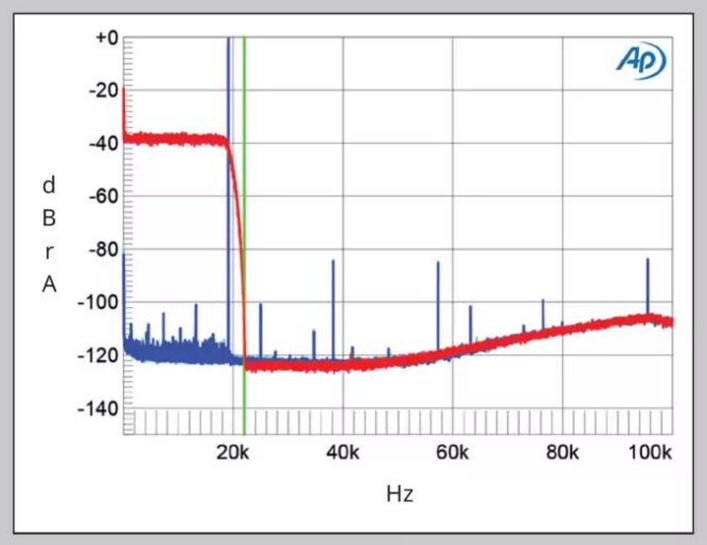
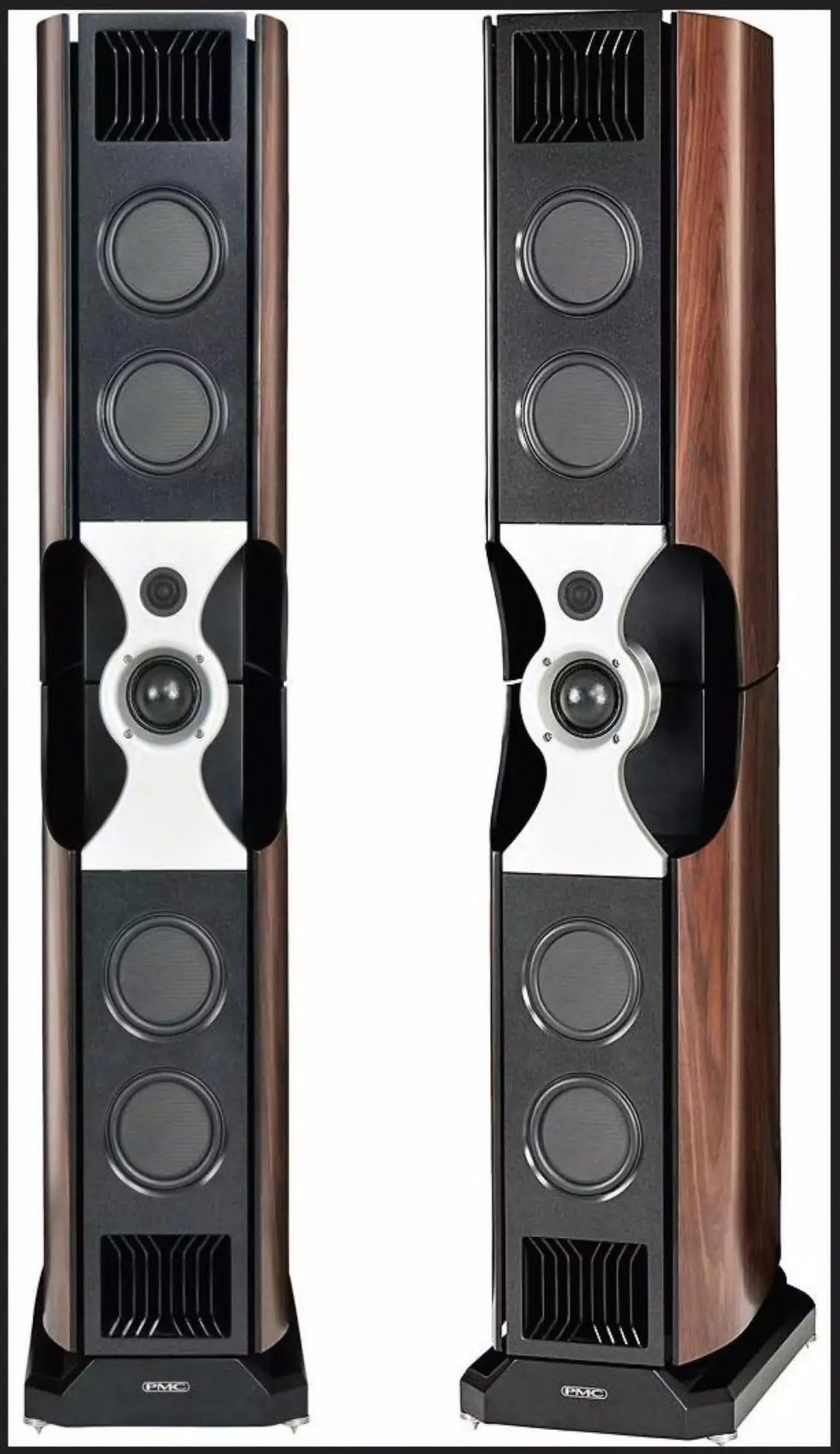


Fig.12 ARCAM A25, USB-C input, wideband spectrum of white noise at –4dBFS (left channel red, right magenta) and 19.1kHz tone at 0dBFS (left blue, right cyan) into 100k ohms with data sampled at 44.1kHz (20dB/vertical div.).

David Lewis Audio.com

THE FINEST IN HIGH END AUDIO



PMC FINESTRIA $90,000

PMC FACT 12 Signature
$26,000

215-725-4080 davidlewisaudio@gmail.com

ACCUPHASE
AERIAL
AESTHETIX
AMG
ATOLL
ALLUXITY
AVALON
AVM
AYRE
BACKERT LABS
BALANCED AUDIO
BEL CANTO
BOULDER
CANTON
CHARIO
CLARUS
DAN D'AGOSTINO
DCS
ESOTERIC
ESTELON
FRANCO SERBLIN
HEGEL
JADIS
JEFF ROWLAND
JOSEPH
KIMBER KABLE
KII
KUBALA SOSNA
NOLA
NORDOST
PROAC
SME
SUTHERLAND
WEISS
WHEST
VIVID

The Complete Columbia Studio Albums Collection (CD Sony 88697957682). The sound through the Falcon Gold Badges was radiant, high in boogie factor, and unusually pleasing. With CDs, the ARCAM DAC sounded sturdy and musically direct, with considerably more push and punch than with streaming.

Clarity, solidity, and beat-keeping were prominent with Onkyo's C-7030 driving the ARCAM's DAC, but more importantly, *how* Monk was playing—all the gillion twisty Monk things he was doing—was easy to apprehend and appreciate. As always, Monk's jazz invited my attention, but ARCAM's ES9280A Pro–based DAC caused it to beckon even more persuasively.

When I switched the C-7030's digital output to my Denafrips Aries II DAC (input via the A25's Analogue 1 input), the sound of Monk became wetter, a tiny bit rounder at the edges, and more hue-saturated. These differences were easy to hear and recognize, but they were not dramatic.

The A25 driving the RP600M IIs excelled in these areas: toe tapping, snare snapping, and cymbal crashing.

With each type of source input, what dominated my ARCAM experience was the smooth, easy-flowing, naturally detailed qualities of the A25's amplifier driving the Falcon Gold Badges. And typing that reminded me: It was time to try a loudspeaker some A25 users might actually use with it, the Klipsch RP600M II standmount/bookshelf/desktop speaker.

Driving the Klipsch RP600M II

ARCAM's original A60 integrated was a high-value working person's amplifier. It became legend by driving Wharfedale's famously musical, 9"-high Diamond standmount.

I remember the Diamond as *the* British budget classic, one that was (when I last heard it) exceptionally faithful to core listening

measurements, continued

line), with the aliased image at 25kHz of a full-scale tone at 19.1kHz (cyan, blue) suppressed by 100dB. The harmonics associated with the 19.1kHz tone all lie at or below –85dB. With the short S/PDIF filter (fig.13), full stop-band attenuation isn't reached until 28kHz, with the aliased image at 25kHz suppressed by just 30dB. The frequency response with 44.1kHz data and the S/PDIF filter starts to roll off above 15kHz, reaching –4dB at 20kHz (fig.14, green and gray traces).

An increase in bit depth from 16 to 24, with dithered data representing a 1kHz tone at –90dBFS, dropped the A25's noisefloor by 13dB (fig.15). This implies a resolution of around 18 bits. When I played undithered data representing a tone at exactly –90.31dBFS, the waveform was symmetrical, with negligible DC offset, and the three DC voltage levels described by the data were clearly defined (not shown). With undithered 24-bit data (not shown), the A25 output a somewhat noisy sinewave.

As it had with the analog inputs, the ARCAM's digital inputs produced very low levels of harmonic distortion. Intermodulation distortion with an equal mix of 19 and 20kHz tones, each at –6dBFS, was also very low, though as expected from fig.13, the aliased images of the primary tones were only suppressed by 20–30dB with TosLink data (fig.16).

Fig.17 shows the spectrum of the A25's output when it was fed high-level 16-bit J-Test data via TosLink. Most of the odd-order harmonics of the undithered low-frequency, LSB-level squarewave lie close to the correct level, though the central spike

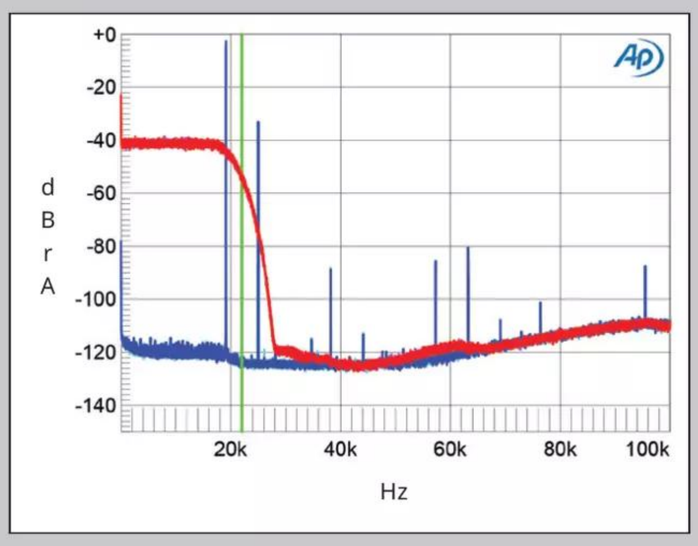


Fig.13 ARCAM A25, TosLink input, wideband spectrum of white noise at –4dBFS (left channel red, right magenta) and 19.1kHz tone at 0dBFS (left blue, right cyan) into 100k ohms with data sampled at 44.1kHz (20dB/vertical div.).

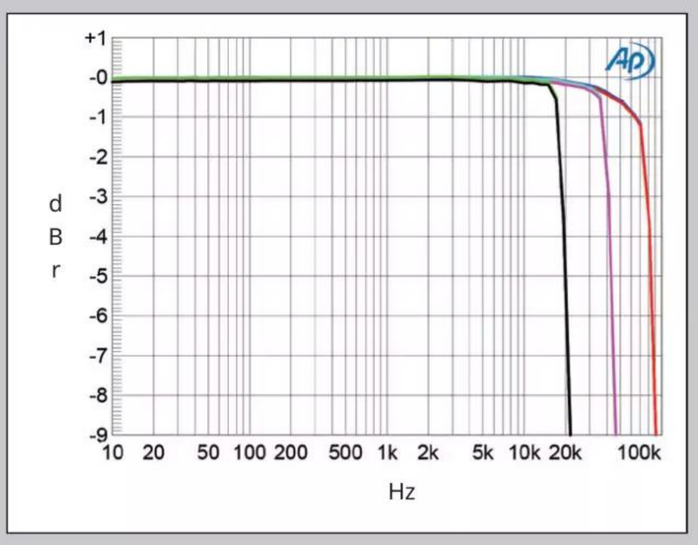


Fig.14 ARCAM A25, TosLink input, frequency response at –12dBFS into 100k ohms with data sampled at: 44.1kHz (left channel green, right gray), 96kHz (left cyan, right magenta), and 192kHz (left blue, right red) (1dB/vertical div.).

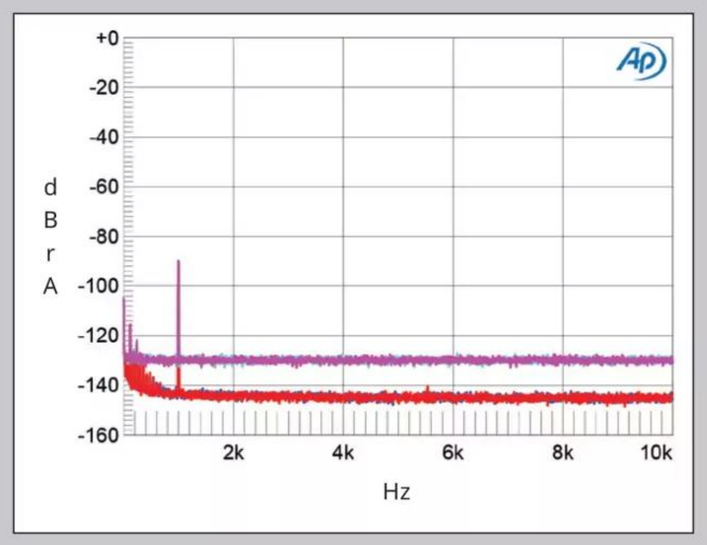


Fig.15 ARCAM A25, digital inputs, spectrum with noise and spuriae of dithered 1kHz tone at –90dBFS with: 16-bit data (left channel cyan, right magenta), 24-bit data (left blue, right red) (20dB/vertical div.).

priorities including natural tone and rhythmic drive. But my faded memory says the Diamond didn't sparkle or deliver the transparency or lightning transients of Klipsch's $649/pair RP600M II standmount/bookshelf speakers. As I expected, the Klipsch speakers showed ARCAM's amplifier's sound in a brighter, clearer, more contemporary light than my Falcon Gold Badges did.

The A25 driving the RP600M IIs excelled in these areas: toe tapping, snare snapping, and cymbal crashing. This combination made those Columbia Monk recordings sound positively, enjoyably *there*. Some of the ARCAM's smoothness and all of its darkness disappeared while it drove the modest Klipsch. Monk's rhythmic energy felt ratcheted up. His piano had good wood-and-metal solidity. His first Columbia album, *Monk's Dream*, sounded brighter, more transparent, and more macrodynamic than it did through my LS3/5a's. It was no contest: I preferred the fresh and open sound of the A25 driving the RP600M IIs.

Using Onkyo's C-7030 CD player as a transport into the A25's DAC, I played Hungarian composer György Ligeti's 1988 composition *Mysteries of the Macabre* off a treasured 4-CD set entitled *Clear or Cloudy* (CD, Deutche Grammophon 00289 477 6443). The sound I experienced was more lucid and resolved—and more straight-out powerful—than I imagined possible at the price point. *Mysteries of the Macabre* came through with raw, affecting force, but tone-wise it strayed to the gray, slightly hard side of neutral. As did this DG recording.

If this was a Wilson review, the reviewer would say, "These speakers are highly resolving and poor recordings will sound poorly recorded." This Ligeti recording is slightly gray, raw, and hard.

vs the Rogue Sphinx V3

Rogue Audio's Sphinx V3 integrated is a vacuum tube–solid state hybrid stereo amplifier capable of outputting 100Wpc into 8 ohms for $1595. In my 2020 report, I stated that "the Sphinx V3 displayed a fun, taut energy the original did not have." The Sphinx V3 features an exceptionally natural-sounding moving magnet/moving coil phono stage, which I thought made Ortofon's 2M moving magnet sound more awake and exciting than it did with stand-alone phono stages costing $1000 or more. The Sphinx has no DAC, but with my Falcons and the Aries II DAC, its class-D amplifier used its exceptional bass-midrange prowess to reproduce large acoustic spaces with satisfying depth and detail.

In comparison, the A25's class-G amp was less eager and expressive but more refined, detailed, and even keeled. The ARCAM came across as smoother, more intimate, and more nuanced than the Rogue—but maybe not as real sounding. Both amps played dark with the Falcon Gold Badges but brighter and livelier with the Heretic AD614 and the Klipsch RP600M II loudspeakers. Both amps favored all genres of music.

In sum

During my auditions, the Radia A25 excelled at what ARCAM calls "its core competence": amplification. It drove three very different speaker loads with effortless, grainless, tone-truthful aplomb—like a first-quality power amplifier costing several times its $1499 asking price. For that, it earned an A+.

It also drove three headphone loads with exceptional ease and clarity. That forced me to give it another A+.

The A25's moving magnet–only phono amplifier, while not as lively or tone-perfect as the best I've heard in an integrated at any price, was also very good. For that, it got a B+.

measurements, continued

that represents the high-level tone at one-quarter the sample rate (Fs/4) is surrounded by low-level sidebands of unknown origin at ±68Hz and ±441Hz. Repeating this analysis with 24-bit J-Test data unmasked another pair of sidebands at ±1.368Hz (not shown). The ARCAM behaved better on this test with USB data (fig.18), though the sidebands at ±68Hz are still present.

To examine the performance of the A25's MM-compatible phono input, I connected a wire from one of the Audio Precision's ground terminals to the grounding lug on the ARCAM's rear panel. This input preserved absolute polarity in all three modes at all three output types. The input impedance is specified as 47k ohms; I measured 45k ohms at 20Hz and 1kHz, and 38.1k ohms at 20kHz.

The maximum gain at 1kHz was a very high 83.9dB from the loudspeaker output. It was 65.67dB from the headphone output and 52.5dB from the Preamplifier outputs. To avoid overdriving the amplifier's output stage, I performed all the subsequent phono stage measurements at the headphone output, which mutes the speaker output.

The phono input's RIAA correction (fig.19) was extremely accurate and well matched between the channels. The lowest frequencies were rolled off, reaching –6dB at 11Hz. Channel separation was 80dB or greater across the audioband. The wideband, unweighted S/N ratio, ref. 1kHz at 5mV, assessed with the inputs shorted to ground and with the volume control set

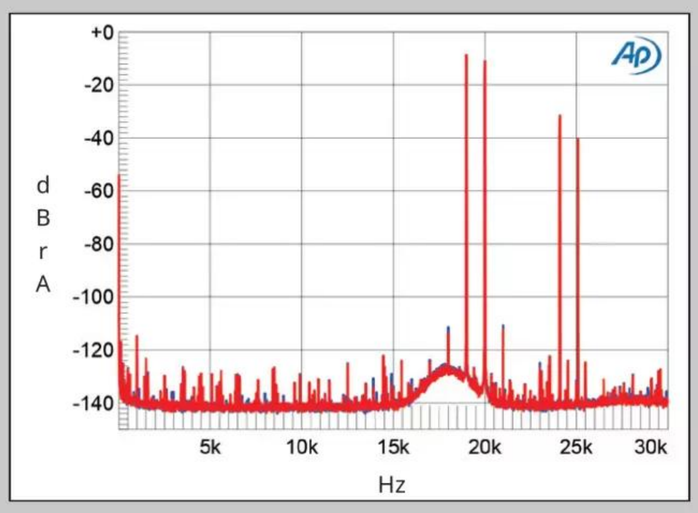


Fig.16 ARCAM A25, TosLink input, 24-bit data, HF intermodulation spectrum, DC–30kHz, 19+20kHz at –3dBFS into 300 ohms, 44.1kHz data (left channel blue, right red; linear frequency scale).

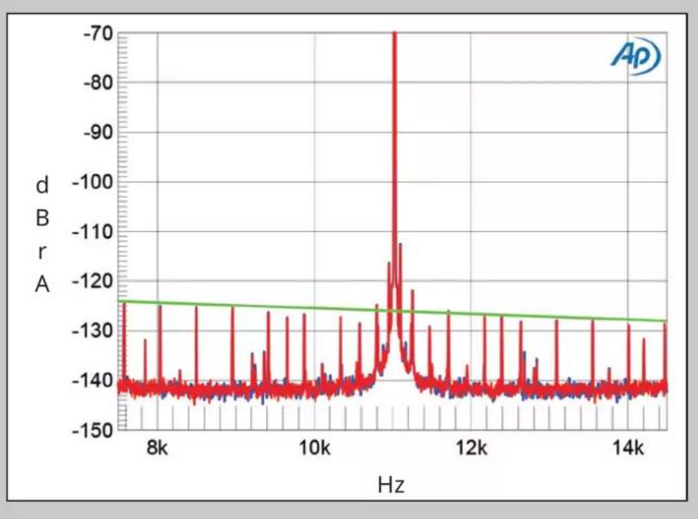


Fig.17 ARCAM A25, TosLink input, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz.

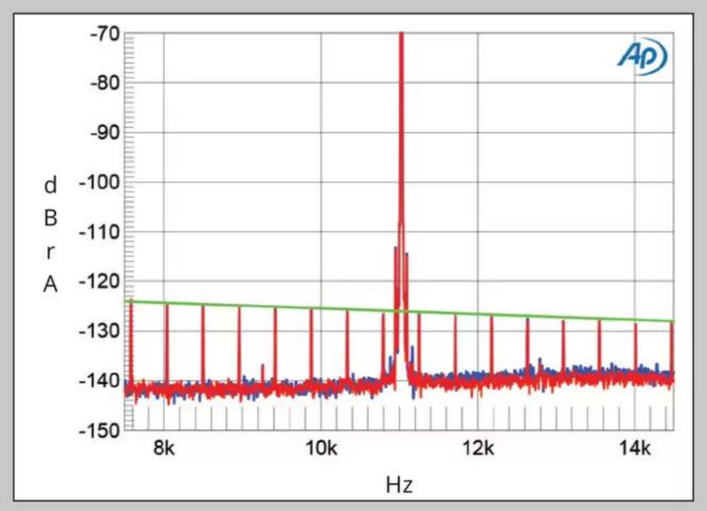


Fig.18 ARCAM A25, USB-C input, high-resolution jitter spectrum of analog output signal, 11.025kHz at –6dBFS, sampled at 44.1kHz with LSB toggled at 229Hz: 16-bit data (left channel blue, right red). Center frequency of trace, 11.025kHz; frequency range, ±3.5kHz.

ASSOCIATED EQUIPMENT

Analog sources Dr. Feickert Analog Blackbird turntable with a Sorane SA1.2 tonearm with the Ortofon 2M Black and Audio Technica AT-VM95E moving magnet cartridges plus Grado Labs's High Output Platinum3 moving iron cartridge feeding PrimaLuna's EVO 100 phono stage.
Digital sources Roon Nucleus+ music server; Denafrips Terminator Plus and Aries II DACs; Onkyo C-7030 CD player.
Integrated amplifier Rogue Sphinx V3.
Headphone amplifiers LTA Z10e, Feliks Envy, dCS Lina.
Headphones Grado Prestige SR325X, Beyerdynamic DT 880 Pro, AKG K812, Meze 109 Pro.
Loudspeakers Falcon Acoustics Gold Badge LS3/5a, Heretic AD614, Klipsch RP600M II.
Cables Digital: Kimber Kable D60 coaxial, AudioQuest Diamond USB (with Denafrips and HoloAudio DACs). Interconnect: Cardas Clear Beyond, AudioQuest Thunderbird. Speaker: Cardas Clear Beyond. AC: AudioQuest Tornado, manufacturer's own.
Accessories AudioQuest Niagara 1000 power conditioner; Harmonic Resolution Systems M3X-1719-AMG isolation platform for Parasound A 21+, Sound Anchor Reference speaker stands (for Falcon and Klipsch speakers), Fidelis custom stands for Heretics. Musical Surroundings V2 Fozgometer; Riverstone Audio VTF gauge, Dr. Feickert cartridge alignment protractor, plus MoFi and Moongel stylus cleaners.—**Herb Reichert**

Through its coaxial and USB inputs, the A25's DAC was music-friendly, championing push over nuance and PRaT over tone. Recordings came through clear and emotionally accessible but a little short on sensuality and atmosphere. For that I gave it a B.

None of that report card stuff expresses how luxurious, affecting, and just plain loveable this machine felt during use. More than anything, ARCAM's Radia A25 amplifier made engaged listening a frequent, satisfying occurrence. That makes it easy to recommend. ■

to –20dB, was a good 65.3dB in both channels. Restricting the measurement bandwidth to 22Hz–22kHz increased the ratio by 12dB, while inserting an A-weighting filter resulted in a ratio of 81.0dB.

To be sure I wasn't prematurely clipping the headphone output, I examined the phono input's overload margins with the volume control set to –40dB. The margins were impressively high from 20Hz to 20kHz, at 24dB ref. 1kHz at 5mV. The second harmonic was the highest in level in the phono input's distortion signature (fig.20), but at –100dB (0.001%) was inconsequential. The levels of the intermodulation products with an equal mix of 19 and 20kHz tones were equally low.

Overall, the ARCAM A25's measured performance was excellent. It offers extraordinarily low distortion from its line, phono, and digital inputs, and low noise provided the volume control is not used above a setting of –12dB or so.
—**John Atkinson**

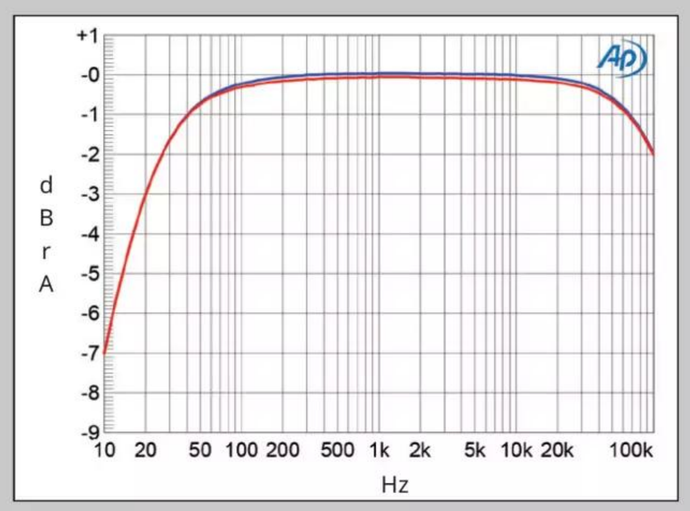


Fig.19 ARCAM A25, phono input, response with RIAA correction (left channel blue, right red) (0.5dB/vertical div.).

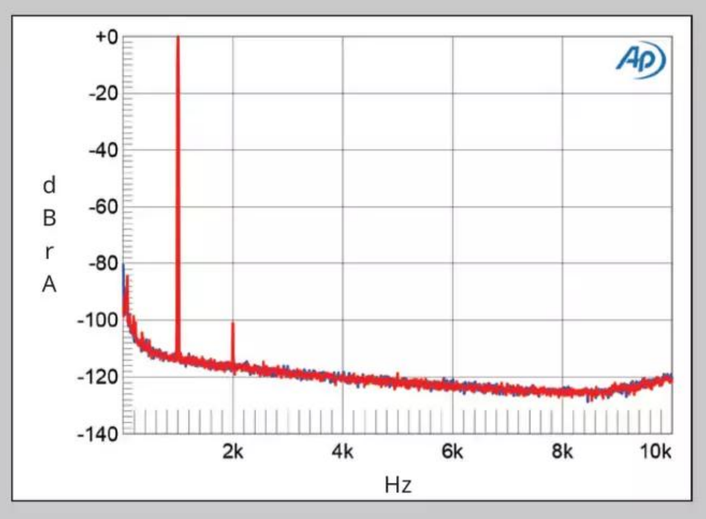


Fig.20 ARCAM A25, phono input, spectrum of 1kHz sinewave, DC–1kHz, for 10mV input with volume control set to –20dB (left channel blue, right red, linear frequency scale).

FIND YOUR TURNTABLE

PURE FIDELITY HARMONY

VPI made in usa PRIME SIGNATURE 21

rega NAIA

Schedule a Demo Today

NOW LISTEN HERE

Harrisburg, PA • Falls Church, VA
717-409-5050
nowlistenhere.net

Power Up

111 MUSICCENTER

Burmester products are renowned for being reliable, long-term investments in musical enrichment.

The new upgrades to the Reference Line 111 Musiccenter take it to the next level in features, sound and performance!

The inclusion of the new X-AMP 3 “op-amp” section provides a genuine “energy boost”, featuring enhanced speed, a more dynamic sound performance and superior micro-detail – all with the addition of a new, extended warranty.

Scan the qr code and learn more about our upgrade program

Find your dealer at our storefinder: www.burmester.de

ROGIER VAN BAKEL

Tekton Moab Be

LOUDSPEAKER

For Christmas in 2020, a friend sent me a gift: a coffee mug decorated with a one-out-of-five-stars rating for the annus horribilis the world had just been through. The caption on the ceramic read, "VERY BAD WOULD NOT RECOMMEND."

True, the pandemic year and the lockdowns had been no fun, to put it mildly, but that doesn't mean there were no positives. Every day, rain or shine, my 10-year-old daughter and I played soccer on the field behind our house. We—pointlessly, I concede—trained our shepherd to walk backward on command. I savored having more time to read, watch movies, and take naps when the urge struck. Finally, I used the long stretch of weeks, then months, to rekindle my lifelong infatuation with music. Thousands of old and new recordings kept me balanced and tethered me to the rest of humanity during the dark days of social distancing. Rarely had music soothed and comforted me more than during the 10 months before the vaccines arrived.

My musical appreciation—reverence at times—was due in part to the new Tekton Moab floorstanders that, over the summer, had arrived for review.[1] For under five grand, factory-direct from the ever-scrappy Utah company, the man-sized towers lit up my living room. Practically from day one, they sounded exciting and true to life. Edging out the MartinLogan Odysseys that had been my conduit to musical joy for years, the Tektons became my new reference speakers.

All things must pass, and I semiretired them a couple of years later when I bought Focal Scala Utopia Evos, which retail for more than 10 times the cost of the Moabs. But I never lost my fondness for them.

Then, last spring, came a call from Eric Alexander, Tekton's founder, owner, and chief engineer. Would I like to audition a pair of different Moabs? What he had in mind wasn't an incremental upgrade, and Alexander wasn't discontinuing the original model. He was offering

1 I wrote for a different publication then.

ALL PHOTOS BY ROGIER VAN BAKEL. COMPOSITING BY DAVID EVETT.

SPECIFICATIONS

Description 3-way bass-reflex floorstanding loudspeaker with dual rear ports, two 12" woofers, patented dual polycell all-beryllium midrange arrays, and a single beryllium tweeter for high-frequency reproduction. Crossover frequencies: 772Hz and 3.41kHz. Frequency response 27Hz–40kHz ±3dB. Sensitivity 93.0dB/2.83V/m. Recommended power 8–900W. **Dimensions** 69.2" (1758mm) H × 14" (356mm) W × 17" (432mm) D. Weight: 157lb. **Price** $30,000/pair. Number of US dealers: Direct-to-consumer sales only. Warranty: Five years. **Serial numbers of units reviewed** 001L and 002L. **Finishes** piano lacquer black, white, obsidian schwarz, bianco Italia, rosso folgore, grigio lynx, grigio titanio, infrared, rosso corsa, nitrous blue, indigo blue. Custom colors available.

Manufacturer
Tekton Design, Orem, UT.
Tel: (801) 836-0764.
Email: tektondesign@gmail.com.
Web: tektondesign.com.

02

" In short, Nordost's Odin 2 doesn't just push the envelope of how unforced audio can sound through a cable; **it breaks the sound barrier.** "

– Hi-Fi+

ODIN 2 SUPREME REFERENCE CABLES

NORDOST

LEARN MORE

to send a product in which all the fabric-dome tweeters had been replaced by beryllium ones. For Moabs, that's an ambitious, shoot-for-the-stars upgrade, because beryllium drivers are expensive and there are 15 tweeters in each Moab—30 for the pair. I didn't need much arm-twisting.

For purposes of this review, I'll refer to the original Moabs as "OG" and refer to the new, beryllium-tweeter iteration as "Be."

Eye-popping and ear-pleasing

If you're thinking that building speakers with 30 tweeters is a sign of incipient madness, I'm happy to predict that once you listen to the Moabs, you'll change your mind. You see, years earlier, one of Alexander's most eye-popping and ear-pleasing ideas had been to cluster seven small high-frequency drivers in a tight circle and set the crossover to feed them midrange and low-treble only (in the case of the Moabs, between 772Hz and 3.41kHz). The cluster acts as a midrange driver with unusually low mass and thus exceptionally quick response. This helps especially with delicate overtones and harmonics, whose formation can be smothered by slower, traditional midrange cones.

Tekton's patented circle array remains a defining characteristic of many of the company's models, from the $2780/pair Pendragons to the $9830/pair Ulfberhts.[2] I didn't know this approach would be brilliant until I heard it with my own ears, after the original Moabs arrived. They sounded solid and engrossing. They pulsed and sashayed like live music does, with great midrange immediacy and

2 This polycell array, as the company calls it, also shows up in two recently introduced Tekton models: the $17,960/pair Signature Series Matrix LS, and a not-yet-in-production speaker that Alexander labels "Bespoke." He claims that Bespokes, which are expected to be much more expensive than current Tektons, will go toe to toe sonically with the likes of Wilson and Magico.

MEASUREMENTS

I measured one of the Tekton Moab Be loudspeaker, serial number 0001L, in RvB's listening room,[1] driving it with his Krell FPB 200c amplifier. I used DRA Labs' MLSSA system with a calibrated DPA 4006 microphone to examine the speaker's behavior in the farfield and an Earthworks QTC-40 mike for the nearfield responses. It wasn't possible to raise the 157lb loudspeaker off the floor for the measurements, so the first reflection from the ground occurs earlier than is usually the case with my testing. I therefore measured the response and dispersion with the microphone at 1m rather than my usual 50". RvB and I moved one of the speakers away from the sidewall so that it fired along his listening room's diagonal, but it wasn't possible to measure the off-axis response more than 45° to each side of the tweeter axis.

Tekton specifies the Moab Be's sensitivity as 93dB/2.83V/m. My estimate was similar, at 93.3dB(B)/2.83V/m, which is 6dB higher than the average of the loudspeakers I have measured. I used Dayton Audio's DATS V2 system to examine the loudspeaker's impedance. The Moab Be's impedance magnitude (fig.1, solid trace) lies above 4 ohms through the midrange and treble but drops below 4 ohms in the upper bass. The minimum value, 2.52 ohms, occurs at 121Hz. The electrical phase angle (fig.1, dashed trace) is often high, meaning that the EPDR,[2] or effective impedance, is extremely low over much of the audioband. The EPDR was below 2 ohms between 27Hz and 31Hz, between 143Hz and 406Hz, and between 1625Hz and 2233Hz, with minimum values of 1.87 ohms at 28Hz, 1.17 ohms at 96Hz, 1.5 ohms at 197Hz, and 1.79 ohms at 1933Hz. The Moab has one of the most demanding impedances I have encountered, though this will be somewhat ameliorated by the high voltage sensitivity.

The Moab Be's enclosure seemed lively when I rapped it with my knuckles. Investigating its vibrational behavior with a plastic-tape accelerometer, I found a resonant mode at 324Hz, which was strongest on the sidewall level with the lower woofer (fig.2). There were other strong modes at 200Hz and 535Hz on the bottom half of the rear panel.

The impedance-magnitude plot has a saddle centered on 33Hz, which suggests

1 See stereophile.com/content/working-room.

2 EPDR is the resistive load that gives rise to the same peak dissipation in an amplifier's output devices as the loudspeaker. See "Audio Power Amplifiers for Loudspeaker Loads," *JAES*, Vol.42 No.9, September 1994, and stereophile.com/reference/707heavy/index.html.

Stereophile Tekton Moab Impedance (ohms) & Phase (deg) vs Frequency (Hz)

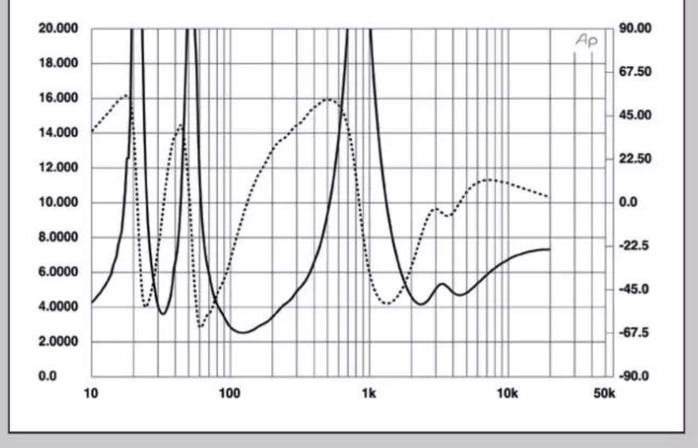


Fig.1 Tekton Moab, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

EXCEL | audio

EXCEPTIONAL AUDIO SYSTEMS

MIKE'S A+ RECOMMENDED COMPONENTS

ALL NEW! WILSON AUDIO ALEXIA V

Now available for audition is Wilson Audio's long awaited replacement for the Alexia 2, the Alexia V. While similar in appearance to its predecessor, the new speaker has many changes that take the sonic performance to the next level. Featuring V material, accoustic diodes, a quadramag midrange driver, plus many other features too numerous to list, the Alexia V must be heard to be believed. Stop by Excel and take a listen. You'll be glad you did.

MSRP $67,900 standard colors

Excel is now open 10-6 Monday-Saturday.

BAT VK 80i INTEGRATED AMP

New From BAT. Fantastic sounding all-tube integrated amp utilizes the same 6C33C-B output tubes as the top-of-the-line REX 3 amp. Conservatively rated at 55 watts per channel of pure triode goodness, this amp produces crazy good sound. The VK 80i driving the new Sabrina X's is downright amazing. All BAT products including the fabulous REX 3 amp/preamp are available for audition at Excel.

MSRP $9,995.00

NEW MODEL DCS BARTOK APEX

The new dCS Bartok Apex is first and foremost a state of the art network streaming dac. With the addition of a unique headphone amplifier it brings the dCS experience to both headphone and stereo listeners. This level of digital playback has never been available at this price point. Feel free to bring in your favorite headphones for a listen.

MSRP $20,950.00 w/o headphone amp
$22,950.00 with headphone amp

Come in and browse through our vinyl records. Excel has the largest selection of audiophile vinyl in southern CA. Titles from Analogue Productions, Impex, MoFi, and many more.

EXCEL | audio
Authorized Dealer of

AMG • Audio Research • Aurender • B&W • BAT • Chord • Clearaudio
D'Agostino • dCS • Esoteric • Gold Note • Harbeth • HiFi Rose • Isotek
Klipsch • Koetsu • Levinson • Line Magnetic • Luxman • MoFi • Nagra
Nordost • Rega • SME • Technics • Western Electric • Wharfedale
Wilson Audio…and more

Located at 4678 Campus Dr., Newport Beach, CA 92660.

Mike Rose's EXCEL | audio
Newport Beach, CA
949.933.1599 / excelaudio.us

terrific top-end sparkle but no tizziness.

According to Alexander, the upgraded Moab has more going on that's new than those 15 beryllium "tweeters": This version has thicker baffles, better cabinet bracing, higher-quality crossover parts, and, optionally, an extra-high-quality gloss paint job. The price reflects these upgrades: Tekton charges $30,000 for a pair of the tricked-out Moabs, about six times the OG's cost.

My new review pair arrived with the upgraded finish, in classy-looking Donington Gray, a BMW automotive color whose multiple coats shone like a mirror. They'd exited the spray booth just a week or so earlier and smelled like it—enough so that I guiltily banished them to my gear closet, where they stood next to a running air purifier. The paint odor dissipated slowly, and after a few weeks all was well.

At that point, I gave the Moabs Be a once-over in my listening room. Experience with visitors and online detractors has taught me that the appearance of these speakers is polarizing, much in the way that Wilson's Chronosonic speakers or Dan D'Agostino's amplifiers are. Not that the lumbering Moabs are blingy—far from it. The MDF boxes sport no swoops or curves to break up their straight lines, and they don't impersonate fine furniture, with delicate woodworking and fancy veneers. An online critic recently remarked of Tekton towers that he'd never turn his living room into "hifi Stonehenge," and I get his point, but I quite like the Moabs' look. They're not pretty, per se, but they have a brash, form-follows-function aesthetic, hold the frou-frou. My Moabs OG came with optional grilles that let users avoid trypophobia and hide the busyness of the front-baffle design. The new speakers arrived grille-less, and that's fine with me.

measurements, continued

that this is the tuning frequency of the twin ports on the enclosure's rear wall. The two woofers behaved identically; the blue trace below 300Hz in fig.3 shows the sum of their nearfield responses, which has its minimum-motion notch at 33Hz, as expected from fig.1. The ripples in the woofers' output are due to the fact that the two drive units are widely separated on the speaker's front baffle, leading to interference between their measured outputs.

The nearfield response of the ports (red trace) peaks between 25Hz and 50Hz, and its upper-frequency rolloff is interrupted by peaks centered on 161Hz, 248Hz, and 352Hz. As the ports fire away from the listener, this behavior should not have audible consequences.

The black trace below 300Hz in fig.3 shows the sum of the nearfield midrange, woofer, and port outputs, taking into account acoustic phase and the different distance of each radiator from a nominal farfield microphone position. The rise in response in the upper bass will mainly be due to the nearfield measurement technique, but the Moab Be's low-frequency alignment does appear somewhat underdamped. The peak in the ports' output at 248Hz results in a small discontinuity at the same frequency in the woofers' response.

The black trace above 300Hz in fig.3 shows the Tekton's farfield response, averaged across a 30° horizontal window centered on the tweeter axis. The overall balance is impressively even from the middle of the midrange through to the top audio octave, though there is a slight excess of

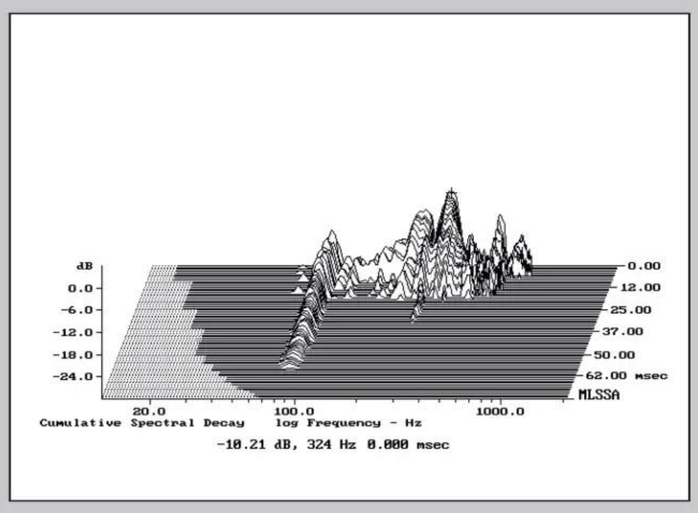


Fig.2 Tekton Moab, cumulative spectral-decay plot calculated from output of accelerometer fastened to the sidewall level with the bottom woofer (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

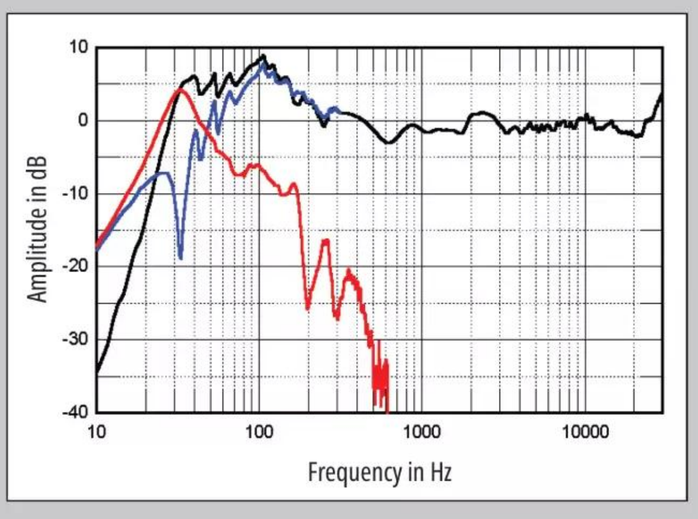


Fig.3 Tekton Moab, anechoic response, averaged across 30° horizontal window on tweeter axis at 1m (black) and corrected for microphone response, with the nearfield woofer (blue) and port (red) responses and their complex sum respectively plotted below 300Hz, 600Hz, and 300Hz.

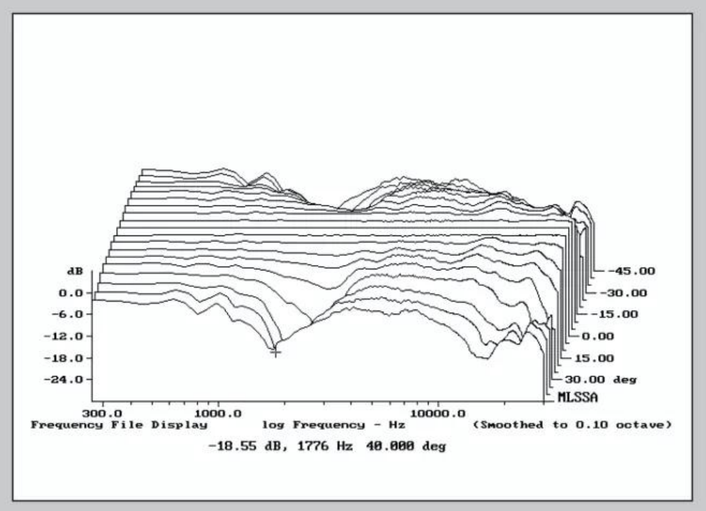


Fig.4 Tekton Moab, lateral response family at 1m, normalized to response on tweeter axis, from back to front: differences in response 45°–5° off axis, reference response, differences in response 5°–45° off axis.

MoFi

Andrew Jones' Latest Masterpiece: Modern Design, Classic Aesthetics

NEW MoFi
SourcePoint 10
Bookshelf Speakers

NEW Bowers & Wilkins
805 D4 Bookshelf Speakers

KEF
LS50 Meta Bookshelf Speakers

NEW HiFi Rose
RS520 Streamer/Amplifier

Luxman
L-507Z Integrated Amplifier

Shunyata
Eiger Power Conditioner

musicdirect®

312-433-0200

CHECK OUT OUR NEW CATALOG!

Call for a free copy

Lost in Port-land

Placing them side by side with the OGs, I found the Be speakers about an inch shorter. That's because the beryllium drivers are slightly smaller in diameter than their fabric-dome predecessors, Alexander explained, allowing Tekton to take a little off the top, as my barber would say. Just as before, the dual 12" woofers, made by Eminence USA, are mounted near the baffles' top and bottom. They're 3.5' apart from center to center—an unusual arrangement that I reckon helps subdue room nulls.

Around back are nicely constructed copper Cardas binding posts, albeit a variety I don't love because of how hard it is to tell the positive terminals from the negative. (A plastic plate behind the posts has a tiny raised plus sign as an indicator, black on black. You may need a flashlight and glasses to discern it.)

Two bass ports, each 5" in diameter, round out the rear. I own but rarely use a dual-ported Hsu subwoofer whose advantage is that you can leave the ports open or plug one or both. That way, you can tune the sub's response to the room and your preferences. This is possible with the Moabs too. In my previous listening room, the OG towers stood about 3' from my front wall, where they sounded excellent overall but suffered from a room resonance somewhere between 30–50Hz. To fix that, I'd fashioned bass-port plugs from a pool noodle by whittling the foam down just enough for a tight fit. Those plugs worked a treat on the older Moabs. On the beryllium version, their effect was less pronounced, perhaps because the speakers, in my new room,[3] sounded best some 6' from the front walls. As expected, the extra distance meant that bass room resonances were not energized as much. I often preferred to have both ports plugged when listening to bassy genres like electronica and dub, and open when listening to chamber ensembles and classic rock. Some recordings sounded best with just one port obstructed. During my two months with the Moabs Be, I listened with both ports plugged about two-thirds of the time.

Alexander didn't outright second-guess my slight preference,

3 See stereophile.com/content/working-room.

measurements, continued

presence-region energy compared with the output above and below that region.

The Moab Be's horizontal dispersion, normalized to the tweeter-axis response, is shown in fig.4. The contour lines in this graph are generally even, which implies stable stereo imaging, though a lack of energy develops between 1kHz and 4kHz at extreme off-axis angles. This will tend to compensate for the on-axis excess in the same region, which means that reducing the toe-in angle will give the most neutral treble balance. The tweeter is 40.5" from the floor, a few inches higher than what we have found to be a listener's typical ear height. In the vertical plane (fig.5), the traces normalized to the tweeter-axis response indicate a suckout at 3.4kHz, 5° above the tweeter axis and 10° below it.

The Moab's step response (fig.6) indicates that all the drive units are connected in positive acoustic polarity. The tweeter's output arrives first at the microphone, and the decay of its step smoothly blends with the start of the step of the dual midrange array step. The decay of the midrange array's step then blends smoothly with the start of the woofers' step. This behavior implies an optimal crossover topology. The Tekton's cumulative spectral-decay plot (fig.7) is generally clean, though some low-level delayed energy is present in the low treble.

The Moab Be's measured performance suggests that with care in setup it will offer a neutral sonic balance. Its low-frequency alignment is best-suited to medium-to-large rooms.—**John Atkinson**

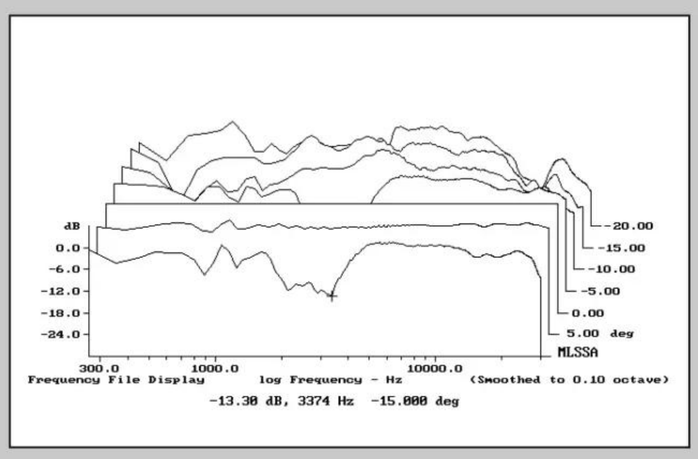


Fig.5 Tekton Moab, vertical response family at 1m, normalized to response on tweeter axis, from back to front: differences in response 20°–5° above axis, reference response, differences in response 5°–10° below axis.

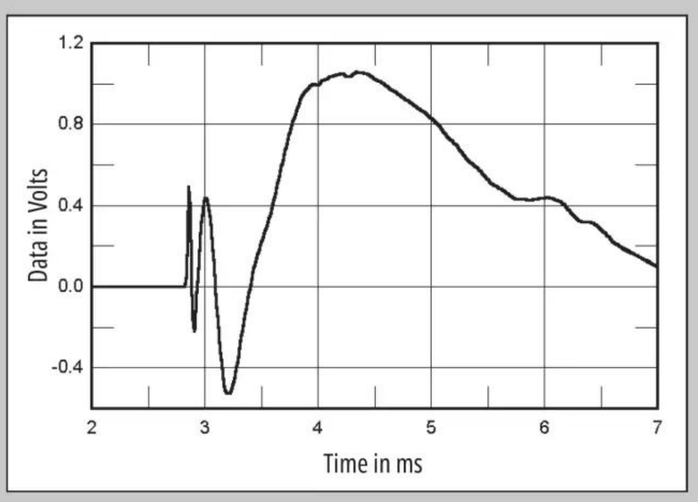


Fig.6 Tekton Moab, step response on tweeter axis at 1m (5ms time window, 30kHz bandwidth).

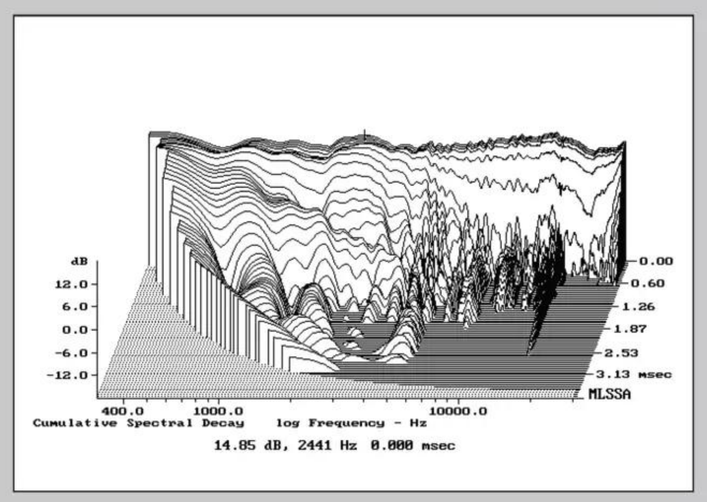


Fig.7 Tekton Moab, cumulative spectral-decay plot on tweeter axis at 1m (0.15ms risetime).

but I don't think it made him happy either. "You and Herb Reichert are the only ones I'm aware of who like my models with the vents blocked," he emailed me. He was referring to Herb's two-thumbs-up review of the Tekton's Impact Monitor,[4] in which Herb mentioned blocking the Impacts' ports with "Wigwam Outlast Weather Shield socks." For all I know, Herb's socks may well sound better than my pool noodles. Maybe we should have a shootout, with burlap sacks, 600-thread-count Egyptian cotton sheets, or comically oversized ball gags.

But seriously—back to Alexander's point. He said that Jason Bonham, a well-regarded drummer and John Bonham's son, had recently purchased a pair of Tekton 1812 speakers, telling Alexander, "I'm a drummer, and I want to buy speakers from a drummer." (Tekton's founder is a percussionist of regional repute.)

"Jason purchased the biggest and loudest model we offer," Alexander noted. "We've garnered a reputation for high-output, big-sounding loudspeakers, and that's what my following has come to expect from me. Good sound is subjective, and some might not

250 MODELS AND COUNTING: AN INTERVIEW WITH TEKTON DESIGN'S ERIC ALEXANDER

One measure of Eric Alexander's drive and versatility is that, by his own count, 19-year-old Tekton Design has engineered and built roughly 250 different models of loudspeakers, one at a time, made to order, with a team that currently numbers eight people.

RvB: Your speaker designs vary quite a bit. Sometimes the ports are in the front, sometimes in the back. You make speakers that are intended to be coupled with SET amps, and others that do well when driven with considerable power. You have an open-baffle model in the works, and so on. Do you add new models because you essentially love the thrill of designing, or because you see niches in the speaker market that you rush to fill?

EA: I see the need for small monitors, smaller towers, midsized towers, and larger towers in my lineup. I'd like to believe there's a need and an explanation for every model we've produced to date. But we're also a custom shop, and if we count the one-off custom speakers we've produced, it comes to around 250 different models. As things have evolved, I've observed trends, voids, and niches that I feel need to be addressed, so we go to work on that. For example, the Moab started life as a model intended to provide audiophiles with an Ulfberht experience at half the price.[1] And yes, I love my job!

RvB: I'm wondering if you've thought about playing with different form factors for your cabinets. Maybe rounded enclosures *à la* Sonus faber speakers or Focal Sopras, or wild-and-wooly forms like the pill-shaped Devialets or the Giya "curls," or B&W's and Gallo's globes. What's the attraction of sticking with rectangular boxes?

EA: It's what we're known for. I'm not too interested in producing stunning visual pieces of art that second as high-performance loudspeakers. There are competitors who already cover that base. I'm a form-following-function audio designer who's comfortable hanging out right where we've carved out our niche in the audiophile world. The best-sounding vintage loudspeakers weren't visual pieces of art, and a loudspeaker doesn't require visual flair to sound amazing.

RvB: I've seen people respond with incredulity when they see the seven-tweeter polycell array you're known for. They often don't understand that those tweeters collectively act as an ultralight midrange driver. And they seem to think there'll be comb-filtering effects and phase-accuracy issues.

EA: The center tweeter is the only high-frequency producer. The circle arrays above and below the tweeter are precisely tackling the midrange duties, making for a revealing, low-distortion presentation that produces dramatic realism with high output capabilities. The loudspeaker is carefully engineered, taking comb-filtering considerations into account. But yeah, audiophiles who haven't heard our product intuitively get skeptical about the arrangement.

RvB: In direct listening comparisons between the OG Moabs and the Be version, I almost always preferred the latter—but often not by a huge amount. This doesn't imply that I find them disappointing; it's just that it seems to me that you set the bar very high with the original Moabs, and met it. What do those beryllium drivers add that, to your ears, is especially dramatic or exquisite?

EA: My goal with the beryllium edition was to go all out in search of fidelity.

RvB: Depending on configuration, the beryllium version is four to six times as expensive. Is it also four to six times as good?

EA: The beryllium model has a slight edge, but I'd agree it isn't four or six times better. When we switch from our standard fabric dome tweeters to all beryllium, that's a $12,000 addition. The cabinets are visually similar but internally different in construction, with the beryllium version containing more reinforcements and materials. Next, we have the addition of high-end paint work similar to Wilson and Magico. Put all that together, and it firmly plants the speakers in the $30,000/pair range. Pricing differentials like this are quite common in the realm of cool man products. For example, why is a stainless Rolex Daytona $25,000 more than the stainless Rolex Submariner model?

RvB: Beryllium drivers are associated in many people's minds with brightness, but I don't get that from the new Moabs. To my ears, they are more laid-back—that is, not treble-forward—than those 30 Be drivers suggest.

EA: I'm glad that's what you're discerning. I'm always careful to not voice speakers too forward or bright. The Satori beryllium drivers we use are exceptionally linear, and that helps too.

RvB: How do you voice your speakers? What's your benchmark?

EA: I've been a drummer since I was 12, so that's 45 years. I've loved being immersed in what real live music feels and sounds like. That's my baseline reference for tuning and voicing a loudspeaker. A majority of the work is completed through computer simulation; then we do a final voicing through careful listening. Live music, including the human voice, is full of nuances, overtones, and microdetails that can instantly turn on a dime and become visceral, dynamic, and energetic. My primary goal is to produce a loudspeaker with those reproduction abilities.

RvB: When I knock on the Moab's cabinet, it doesn't seem especially inert. Why is that? Manufacturers like Rockport and Magico go to enormous lengths to make enclosures that don't vibrate at all.

EA: The moment we move to produce an inert version of the Moab, our business model changes. The price will double, the weight will be three times more, and you'll need piano movers to get them into your house. We're not the only manufacturer doing cabinets like this. For example, Harbeth and ATC have been making loudspeakers based on similar cabinet-shaping philosophies for a lot longer than I've been around, and they both produce wonderful-sounding loudspeakers. Speaker design is an exercise in trade-offs, and I believe we've found a wonderful balance between fidelity and price.

1 The Ulfberht is one of Tekton's top-tier models.

like the sound of the Moabs running wide open, but that's the spirit of the design."

Precisely because good sound is subjective, it's cool that the Tektons' ports provide users with some sound-shaping options.

Like a butterfly, like a bee

Before I could listen critically, I had to give them time to break in; Alexander recommended that I let them play at least 40–50 hours: "They're like starched shirts when they're new," he said.

For setting them up, Tekton suggests a 7'-or-larger equilateral triangle as a starting point. When finished, I had the towers 7'10" apart, my chair almost 9' away from the speaker plane. Per the company's instructions, I made sure the speakers were level front to back and side to side, aimed so that they crossed at a point about 4' behind me.

For six weeks, I listened to the Moabs Be and nothing else, through amplifiers including a PrimaLuna Evo 400 integrated, a Krell FPB 200c, and a Balanced Audio Technology REX 500 (review forthcoming). For the final two weeks of my evaluation, I switched back and forth between the Moabs Be and the OG version.

I'd always loved the expansive midrange and upper-bass purity that the latter produces, and so it was with the new version. It's just that there was audibly more of it this time. Case in point: My Dutch shepherd often keeps me company in the listening room, where nothing seems to spook him—he learned long ago to just tune out the music. But when I played "Pillar I," from the Grammy-nominated album *Seven Pillars* by Sandbox Percussion (24/96 FLAC, Aki Rhythm Productions/Qobuz), his ears shot up and he cocked his head in surprise. I agree with the dog: The Moabs painted the snares and kicks and bells on this standout track with great vividness and realism.

True to their creator, the Moabs—both iterations—like percussion of all kinds. The newer speakers reproduced Frank Zappa's "The Girl in the Magnesium Dress" from *The Yellow Shark* (24/44.1 MQA, Barking Pumpkin/Tidal), a piece for mallet instruments, with so much color and panache that I played it twice in a row for the pleasure of the sonics. I've rarely heard the piece sound more "right."

It was the same with Philip Glass's "North Star" from *Vitreous Body* (16/44.1 FLAC, Orange Mountain Music/Tidal) performed by Slagwerkgroep Den Haag. The sonorous bells rang out with velocity and precision, and I could almost *see* the ultralong reverb tails fading away on yonder side of my front wall.

I asked Eric Alexander what brought about those pinpointable, suspended-in-air notes. "What you're hearing is the low-mass, high-BL[5] motor strength relationship contained within the midrange design, coupled to the perfect beryllium piston," he replied. "It's like that Muhammad Ali line: 'Float like a butterfly, sting like a bee.'"

With the Moabs Be, I often heard outstanding instrument separation. It was evident on Tool's "Chocolate Chip Trip" from *Fear Inoculum* (24/96 MQA, RCA/Tidal) with drums that extended more than 3' beyond the outer flanks of each tower. The speakers delighted me again with the recording of a bird fluttering away during the intro of "Song of the Stars" from *Spiritchaser* by Dead Can Dance (16/44.1 FLAC, 4AD/Tidal). Right out the window to my left it went, almost virtual reality.

Comparing the OG Moabs to the Be version, there often wasn't a huge difference when I played decades-old rock recordings that are sonically a bit dark—think Morphine, or Bowie's Berlin Trilogy, or early Black Sabbath. But the newer towers muscled their way to the fore when I cued up brighter- and crisper-sounding albums: Michael Jackson's *Thriller*, Marian Hill's *Unusual*, Sting's *Ten Summoner's Tales*, anything by Yello. Electronica and synthpop always sounded especially taut and snappy on the Moabs Be.

ASSOCIATED EQUIPMENT

Digital sources 16" MacBook Pro M1 Max running Roon 2.0. Lenovo ThinkCentre running Roon ROCK. Aurender A20. HiFi Rose RS520.
Preamplifiers Audio Research LS16 MkII, Balanced Audio Technology VK-90, Benchmark HPA4 line stage.
Power amplifiers Krell FPB 200c, two Margules U280sc (used as monoblocks), PrimaLuna Evo 400 integrated with Tung-Sol KT150 and Gold Lion platinum-grade 12AU7 tubes, Balanced Audio Technology REX 500.
Loudspeakers Focal Utopia Scala Evo, Tekton Moab (original version).
Cables Clarus Crimson pure copper OCC interconnects. AudioQuest Thunderbird Zero speaker cables.
Accessories AudioQuest PowerQuest PQ-707 power conditioner and Core Power Technologies Equi-Core 1800 MkII / Deep-Core 1800 power conditioners, all on a dedicated 20A circuit. Townshend Seismic Isolation Podiums for speakers and power amplifiers.
Listening room Custom-built dedicated 21' × 15' room with 10'-tall walls rising to a 16' gabled ceiling; total volume 4000ft^3. Extra-thick drywall over Rockwool and mass-loaded vinyl. Hardwood floor over plywood, rubber, gravel, and concrete. 12' × 15' wool rug on a thick pad. Four bass traps, two skyline diffusers, and 12 absorption panels including four "clouds."
—Rogier van Bakel

Braincase by Electric Mantis (16/44.1 FLAC, Electric Mantis/Tidal), a marriage of dreamy keyboard textures and brutal subsonic beats, has become a favorite. The sonic strengths of the Tekton towers have more than a little to do with that.

Summing it

Spoiled? Me? Yes, okay, a little. During almost all of 2023, I'd been listening to superb high-end speakers that are several times as pricey as the Tektons. While the Moabs left none in the dust, neither did the others easily outclass the Moabs. On metrics like timbre, pace, transient quickness, and soundstaging, the beryllium-adorned Tektons play with the big boys. Their signature tends toward big, brash, and meaty—all good traits in my book. They're more than a little like my Focal Scala Utopia Evos that way, and also like the Maestros, the Scalas' larger brethren, which I reviewed in *Stereophile*'s November 2023 issue.[6]

Whether the Moabs' bass performance is as authoritative and ultimately satisfying as those far more expensive speakers is debatable. I found their bottom end quick, ample, and punchy. But with or without sealed ports, to me the lowest octave sounded just a tad less controlled, with a bit more overhang, than I've heard from upper-crust competitors.

In 2018, Eric Alexander told *Stereophile*, "Tekton Design hangs its hat on affordable hi-fi." It's good to see that he and his outsized skills aren't afraid to leave that self-imposed pigeonhole. The Moab OGs were and remain one of high-end audio's superior value propositions. Their beryllium-studded counterparts can't lay the same claim, but I have no qualms about recommending them to buyers who demand the best that Tekton Design has to offer. ■

4 See stereophile.com/content/tekton-design-impact-monitor-loudspeaker.

5 "BL" is the cross product of the magnetic flux density and the length of the voice-coil wire in the magnetic gap. The result of that calculation is called "force factor," and it's a measure of the strength of the magnetic motor.

6 See stereophile.com/content/focal-maestro-utopia-evo-loudspeaker.

“THAT PIANO IS RIGHT THERE”

Extraordinary subwoofer which forms the equipment module pedestal as seen above

Very rapid response and low distortion 20Hz and up. Resonance free.

Adds $490 to system price, including low pass amplifier contained in equipment module.

At the beginning of each musical note there is a brief burst of low frequency startup component which can only be reproduced by a fast woofer like this for that last bit of realism.

VISIT US IN SPECTACULAR VEGAS

GET IN TOUCH

jrsuhre@yahoo.com
www.jimsuhre.com

REVINYLIZATION

BY JIM AUSTIN

THIS ISSUE: Seminal Nina Simone in a high-quality Acoustic Sounds reissue.

Nina Simone: *Wild Is the Wind*

By all accounts, Eunice Kathleen Waymon, aka Nina Simone, who passed in 2003, was a troubled person and a brilliant artist. Why she was not more acclaimed during her lifetime is a question several recent film projects have tried to answer. Did her fierce stand on civil rights lose her fans? Or was it, as the films have implied, a case of self-sabotage driven by mental illness? Whatever the answer, her inimitable work continues to resonate with ever more force and depth.

Simone was a gifted, aspiring classical pianist who graduated as valedictorian from an integrated private high school and attended Juilliard for a year on scholarship, using her time there to prepare for the entrance exam at the Curtis Institute, from which she was rejected. (Days before her death, Simone would learn that Curtis intended to award her an honorary degree.) Her rejection from Curtis pushed her into jazz. In the mid-1960s, she underwent a radical change in her music and personal beliefs.

Up to that point, she'd played the music business game and stayed on the safe side, trying to widen her appeal with a mix of standards, bluesy numbers, and also—hesitantly—originals. But the murders of Emmett Till and Medgar Evers and the stirring of the Civil Rights movement convinced her of the righteousness of the cause, and she became a leading musical voice in the struggle.

Upon its release in 1964, on the album *Nina Simone in Concert*, "Mississippi Goddam" became a civil rights rallying cry. Banned many places in the South, the song introduced an element of righteous anger into Simone's live appearances. Some fans were put off by her new activism, while that same attribute drew others to her music for the first time. Simone was acutely aware that she was not thought of or spoken about with the same affection as, for example, Ella Fitzgerald, and her recorded legacy from the mid-1960s onward is an unwieldly but ahead-of-its-time mix of committed, well-aimed message songs, love songs, Beatles covers, and Tin Pan Alley standards. One of the first and still best albums that displays this mix in a near-perfect blend is 1966's *Wild Is the Wind*.

A mix of tracks left over from sessions Philips recorded in 1964 and 1965, *Wild Is the Wind* has been reissued on 180gm vinyl by Universal Music and Acoustic Sounds. Remastered by Ryan Smith at Sterling Sound and plated and pressed at QRP in Salina, Kansas, the record sounds warm and evocative, capturing the nuances of Simone's complex vocal powers. Throughout, the sonic focus is almost entirely on her voice and piano. The players heard on the original issue as well as this reissue are not listed—this was common at the time—but according to ninasimone.com, the band was guitarist Rudy Stevenson, bassist Lisle Atkinson, and drummer Bobby Hamilton. (Stevenson is also credited on flute.)

Oddly coherent despite the jumble of tracks, the album opens with "I Love Your Lovin' Ways," which shows that among her many gifts, Simone was an enthusiastic and credible blues singer. Further along is her unforgettable version of the lovely "Lilac Wine." Covered again by Jeff Buckley in 1994, this solemn hymn to love, written by James Shelton, gathers a triumphant roll here thanks to Simone's voice and piano. In her softest, most expressive voice, she lingers on the dreamy lyrics—"I made wine from the lilac tree/Put my heart in its recipe/Makes me see what I want to see/And be what I want to be."

Later, during "That's All I Ask," she stretches her vocals, allowing her tight vibrato to kick in. She switches into a forceful growl that occasionally soars in Van McCoy's "Break Down and Let It All Out." (That's the same McCoy who wrote and recorded the 1975 disco hit, "The Hustle.") A light rhumba beat swirls behind "Why Keep on Breaking My Heart," as Simone becomes the jilted lover, a persona she often inhabited and made indelibly her own. The title track, by the great film-soundtrack composer Dimitri Tiomkin (*Red River*, *High Noon*, *The Old Man and the Sea*), receives a seven-minute performance that drags and may be the album's least successful track. Her expressive vocal verve, expertly modulating between emphasis and solemnity, makes her version of the traditional "Black Is the Color of My True Love's Hair" one of her best-known recordings.

The album closes with a pair of tracks with the word "lose" in the title. The process of losing something, be it love or self-respect, is a foundational theme in Simone's emotional and artistic worlds. Toward the end of her emotional performance of "If I Should Lose You," which ends with grand glissandos leading to playful piano chords, she tightens her vibrato to the point where it's not clear if she's singing or crying.

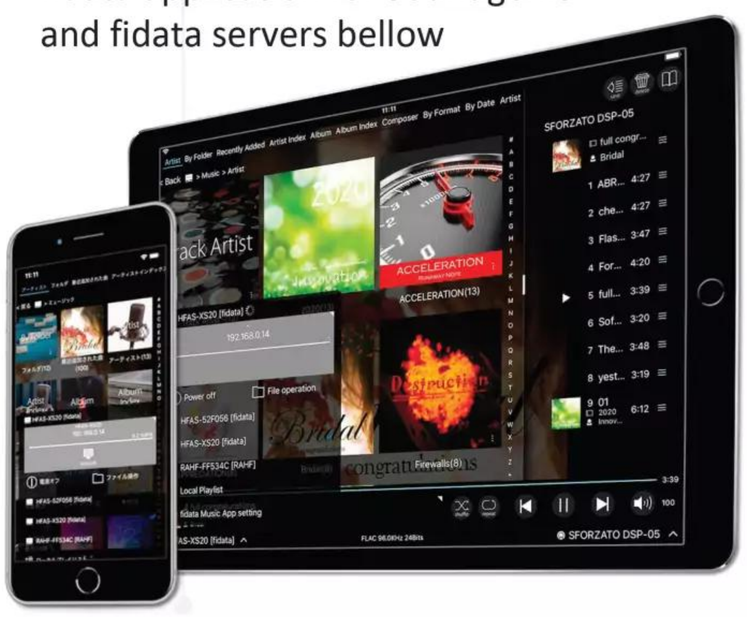
The album's masterpiece, and the only Simone original on *Wild Is the Wind*, is "Four Women," in which she follows a quartet of women from slavery to present time. Singing in the characters of Aunt Sarah, Saffronia, Sweet Thing, and Peaches, she details what they were called and how they were treated. While Simone's voice could be a very effective weapon when she so chose, here she sings expressively but without overwhelming emotion until the final verse, when, as Peaches, she digs into lines she clearly relates to on a personal level. "My skin is brown/My manner is tough/I'll kill the first mother I see/My life has been too rough/I'm awfully bitter these days/Because my parents were slaves." In a jarring juxtaposition that defines the emotional spectrum of her work in the mid-'60s, that justifiable vehemence is followed by a slow and soft rendition of the pleading love cry, "What More Can I Say?"

Filled with representations of Simone's many-faceted personality, *Wild Is the Wind*, available again in a high-quality vinyl pressing with remastered sound, is a marvelously diverse portrait of an artist forever in transition. ■

Soundgenic joins fidata - Introducing the I-O DATA DEVICE family of multi function servers and enhanced fidata music application!

I-O DATA DEVICE servers are 100% designed, engineered and manufactured in Japan. All servers allow for drag and drop/ plug and play from drives on your network. With an optional USB DVD/Blu-ray player (Not included) each device is a server/ ripper/tagger/renderer and CD player.

fidata application for Soundgenic and fidata servers bellow



Pro grade fidata Multi-SSD "X" Cluster Network Audio Server (Black)

The fidata "X-Cluster SSD system" feeds data uniformly across multiple SSDs. The resulting ability to access data within the clusters, smooths the load on the power supply by limiting deviations in power consumption. This technology results in greater noise reduction allowing extraction of more "hidden data" from within a file, providing a smoother, highly detailed and extremely dimensional soundstage.

fidata LAN Cable,
USB Cable

For detailed **use information on Soundgenic** please visit: **www.iodata.jp/ssp/soundgenic/en/**

For detailed **use information on fidata** please visit: **www.iodata.jp/fidata/en/**

Distributed in the USA by Source Systems, Ltd.. 949-369-7729 sourcesystems@cox.net www.sourcesystemsltd.com

Copyright © *I-O DATA DEVICE INC.*

AURAL ROBERT

BY ROBERT BAIRD

THIS ISSUE: From Guy Clark, an old issue and a new reissue of *Old No. 1*.

Another "outlaw" country artist

Recently, a letter to the editor from Len Eggert arrived in *Stereophile*'s digital mailbox that closed with a question: "How about coverage of other notable 'outlaw' singer-songwriters who shunned Nashville and put Austin on the musical map: Guy Clark? Kris Kristofferson? Jerry Jeff Walker? Waylon Jennings? Billie Joe Shaver? David Allan Coe? Are you listening, Robert Baird?"

Timely if nothing else, that email came just after I had serendipitously acquired a new-to-my-collection, first-pressing LP copy of the first Guy Clark album, *Old No. 1*. Killing time before a doctor's appointment near Washington Square Park in Manhattan, I wandered into Generation Records. As loud punk rock blared across the store—which was once filled with bootleg CDs but is now almost entirely new and used vinyl—I happened to glance up. Just below the ceiling, well out of reach of shoplifters, was a copy of Guy Clark's *Old No. 1*.

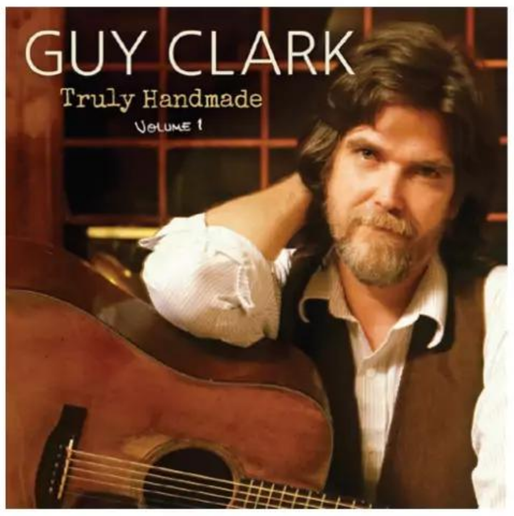
When I asked the burly, tattooed clerk, who looked every bit a metalhead, to get it down, he smiled and, much to my surprise, launched into a lengthy sermon extolling the outlaws of country music. Jennings, Walker, Shaver, and Clark all rolled off his tongue as he marveled out loud about their memorable songwriting and over how expensive the OG pressings of their albums have become. Original vinyl pressings of the best albums by these artists in VG+ shape often start at $50. At higher grades, that figure can easily exceed $100. As I slid the record in question out of its custom inner sleeve and turned it over in my hands, the clerk, now in full pontification mode, drew other customers into the discussion. Young and old, female and male, heads were nodding, song titles were flying, and many were genuinely contributing. Most agreed that these one-time rebels were now cool. Even though I was obsessively slavering over the copy of *Old No. 1* in my hands (which was in beautiful shape and $60), it all felt vaguely dreamlike. Here I was in a roomful of music fans ranging from NYU students to old white-haired dudes like me, in the middle of the day, in the middle of Manhattan, chattering about the wonderfulness of Guy Clark.

For those unfamiliar, Clark is among that group of songwriters who hovered between Nashville, Tennessee, and Austin, Texas, in the 1970s, whose collective body of songwriting is the foundation of the entire Americana genre, which is thriving as much as any genre can today. I suspect that it's the innate authenticity, lack of artifice, and—yes, deft songcraft that attract young musicians to its creative banner. Like many debut albums, Clark's *Old No. 1* is brimming with all the great ideas he'd saved up to make his recording debut a success. Two of his greatest songs, "L.A. Freeway" and "Desperados Waiting for a Train," both autobiographical, are here. This album also contains some of his finest lyrical expressions, including these evocative lines from "That Old Time Feeling":

That old time feelin' limps through the night on a crutch/Like an old soldier wonderin' if he's paid too much/And that old time feelin' rocks and spits and cries/Like an old lover rememberin' the girl with the clear blue eyes.

On *Old No. 1*, Clark's voice is higher and more resilient than it would be later, after years of living and umpteen cigarettes. Johnny Gimble's fiddle parts are a sweet touch throughout the album. Simply recorded and logically mixed by Al Pachucki, Tom Pick, Ray Butts, and Neil Wilburn, with a close mike on the acoustic guitar and with keyboards and harmonica behind and the voices just a touch forward, *Old No. 1* is a classic example of the kind of routinely exceptional audio engineering that was common at the height of analog recording.

Although I prefer original pressings over reissues, *Old No. 1* has recently been reissued on 180gm blue-black vinyl by Vinyl Me Please. In further exciting news for Clark fans, *Truly Handmade*, a collection of Clark's demos and unreleased songs, was scheduled for release in March 2024. It is available for preorder on CD or LP via Clark's website, guyclark.com.



For a taste of the camaraderie that existed among the so-called outlaws, *Heartworn Highways*, a documentary film shot around the time of the release of *Old No. 1*, centers on Clark and other left-of–Music Row songwriters. This cinematic hodgepodge ends with a boozy, festive Christmas Eve guitar pull between Clark, Rodney Crowell, Steve Young, Steve Earle, and others. The film also has footage of the songwriter who may have been the most talented and certainly was the most troubled of them all, Townes Van Zandt.

The state of music today can be depressing. Some genres have become disposable. And while streaming has "saved" the music business, that once-booming capitalist enterprise has desiccated to a dry skin of its former self. Dollars have drained out. The proliferation of alternative entertainment choices has made music less vital to many. For those who make music, it's even grimmer. Come up with an original beat or melody, and there's a good chance, thanks to the digital world, that someone will steal it. For musicians, the aforementioned streaming, convenient and affordable for listeners, is a marketing tool. Unless you are Taylor Swift, however, it doesn't pay a living wage the way physical media once did. Musicians must tour to survive, which most find fun when they're young, less so as they age.

As I walked toward the Washington Square arch, treasure in hand, I wondered if the return of vinyl culture, and the subsequent acknowledgement of songwriting heroes of the past, are revaluing music. Is this a step in making music more important, if not essential, in young lives again? ■

BEST GETZ

- The only release of this fundamental jazz classic crafted with the full participation of the Getz family, including never-before-seen photos and notes from Monica and Nick Getz
- Exclusive new interview essay about Getz's life and the recording of the album by noted producer and historian Charles L. Granata
- Mastered from the original analog master tapes by Bernie Grundman
- Two 45-rpm 1STEP LPs pressed on VR900 super vinyl
- Two exclusive all-analog bonus tracks

IMPEX RECORDS™ | 1STEP™

Call Today!
866-615-0399

or visit us online at
elusivedisc.com

elusive DISC

GRV 1400
VANESSA FERNANDEZ • REMEMBER ME

Vanessa Fernandez's fourth album for Groove Note features a fabulous mix of RnB classics such as **That's The Way Of The World** (Earth Wind & Fire), **Lovely Day** (Bill Withers), **You're The One I Need** (Barry White), **Kiss** (Prince) with more contemporary material like **I Belong To You** (Lenny Kravitz), **It Runs Through Me** (Tom Misch), **Roads** (Portishead) and others. Vanessa and Tim Pierce (arranger) have delivered a supremely satisfying and rewarding album, one that is also beautifully recorded.

"The test pressing you gave me is so frighteningly good..."
Louis Desjardins, Kronos Audio (on hearing the GRV1400 TP)

"There are few recordings you can buy today that equal the sound of Fernandez's Groove Note releases in any parameter you can think of..."
Dennis Davis, Audiobeat

Release date: February 10th, 2024
Formats: 180g double 45-rpm LP/Hybrid Stereo SACD

Groove Note®

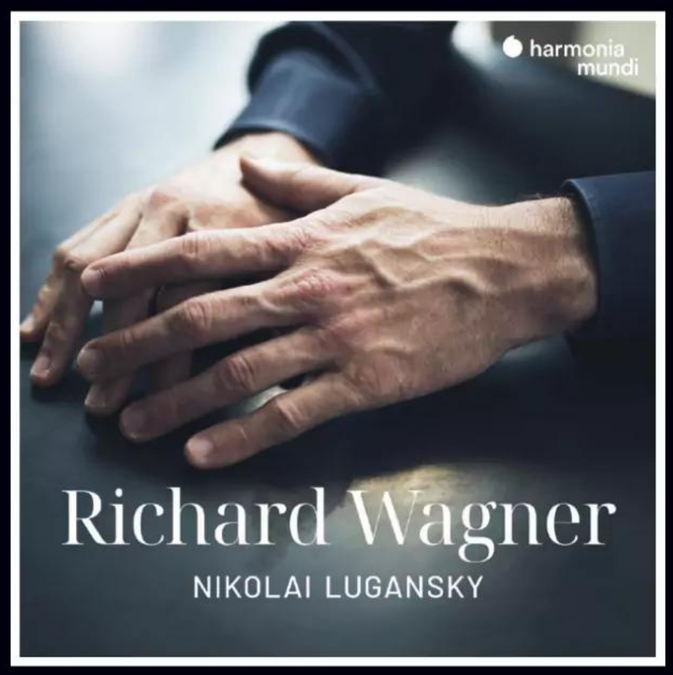
Exclusive U.S. Audiophile Distribution:
elusivedisc.com

Fax: 765-608-5341 Info: 765-608-5340 2439 E 67th St., Anderson, IN 46013 sales@elusivedisc.com M-F: 9-6 Sat: 11-3 EST

RECORD REVIEWS

EDITOR'S PICK

RECORDING OF THE MONTH



WAGNER
Famous Opera Scenes

Nikolai Lugansky (piano)

Harmonia Mundi HMM 902393 (CD). Nicolas Bartholomée, prod.; Bartholomée, Ambroise Helmlinger, engs.

PERFORMANCE ★★★★½
SONICS ★★★★★

Concert arrangements of operatic themes for piano, like Liszt's famous concert paraphrases, obviously provide an opportunity to display one's virtuosic keyboard technique. As Denis Morrier's program note for Harmonia Mundi indicates, however, transcriptions of Wagner served a second important purpose: spreading awareness of the composer's operas when they only played in a limited number of venues. There was no Spotify or Idagio back then!

This labor of love from Nikolai Lugansky, straying from his customary blockbuster repertoire, is certainly welcome. He begins the program with two large-scale arrangements by 19th century Belgian pianist Louis Brassin. The "Entry of the Gods into Valhalla"—the only readily detachable scene from *Das Rheingold*—begins with lovely, liquid arpeggios under which Donner's call sounds in the midrange. A gradual, resonant expansion leads to the tossing of the Ring onto the gold pile; Lugansky can't simulate the famous thunderclap on piano, but the shape of the musical gesture gives the right idea. The ensuing procession of the gods, with its calm, rippling arpeggios, is a guarded affirmation, with the Rhinemaidens' offstage song—added by the pianist—injecting a briefly troubled note.

The "Magic Fire Music" from *Walküre* opens with imposing bass octaves, contrasting the answering high chords and chordal flourishes. Both these arrangements incorporate the sort of tremolos that are the bane of operatic rehearsal pianists everywhere; Brassin improves on them by combining them with arpeggios, at once offering fuller, more imaginative textures along with greater scope for virtuosic execution.

The *Parsifal* excerpt hitches the "Transformation Music," based on a score by Wagner's contemporary, conductor Felix Mottl, to the opera's *finale* as transcribed by Hungarian pianist Zoltán Kocsis. Save for a few scales, this arrangement goes easy on the flourishes. Gently pulsing chords at the start compensate somewhat for the piano's lack of true sustaining power (relative to an orchestra), and there's a nice diminuendo and hush in the repeated chorales later on. We finally get to hear one of Liszt's own arrangements, the "Liebestod" from *Tristan*; it's pretty straightforward in many particulars, including the use of back-and-forth tremolos to simulate the strings, but Lugansky makes them work, correctly subordinating them into the fabric, and uses the piano's comparative flexibility to accommodate sensitive rubatos, particularly in the phrases with the little melodic turns.

Lugansky's own transcriptions of four episodes from *Götterdämmerung* constitute the program's centerpiece, and, while I appreciate his obeisance to the tradition, I'm not entirely convinced. He devised these arrangements some 20 years ago, and although he tweaked them for this outing, he seems to have lacked the gestural vocabulary or, perhaps, the sheer imagination to emulate his forebears' style. Sometimes, the basic piano-vocal score seems to be stuck in his head—as it may have been for Liszt in the "Liebestod"—but it's somewhat beside the point here. The bare single line that begins "Zu neuen Taten," the love duet, firmly intoned, suggests a cleaner, less-busy musical setting; the runs are virtuosic as ever, but the phrasing is less rhetorical, and the peak moments feel reined in. The "Rhine Journey," launched *attacca*, is better: Lugansky captures the gently chugging pulse at the start and maintains a steady line through the runs, with a nice fade at the broad, soaring fanfare. The soloist darkly tints the opening "*Muss es sein?*" motif of the "Funeral March"; the piano can't quite evoke the lonely trumpet call, but the "Rainbow Bridge" statement is grand, and Lugansky colors the unstable progressions affectingly. He infuses the six-minute clip of the "Immolation Scene" with an impulsiveness not possible with orchestra, and, while he does use some of the baleful tremolos, he at least sensibly subdues them within the sonority. But the scales, while clean, lack the firm tonal weight heard elsewhere, and the final pages, settling into repose, turn oddly sparse and static.

Despite my reservations about individual moments, I found Lugansky's playing alert, stylish, and assured throughout, with an expansive resonance in the bass octaves. Save in the hard-toned first statement of the "Magic Fire" theme, the upper range is crystalline, with clear, liquid runs and luminous arpeggios. Such unpianistic matters as dotted-triplet fanfares are crisply articulate, as if he does this every day (and he probably does!). And Lugansky—unlike Glenn Gould in his 1970s *Meistersinger Prelude*—doesn't have to resort to an overdub. (Gould's use of an overdub there is not a secret; both he and CBS admitted as much.)

Production and engineering is by Nicolas Bartholomée, Lugansky's usual producer and engineer, with an engineering assist from Ambroise Helmlinger, a young Frenchman. Bartholomée earned a 2005 Grammy nomination for Best Opera Recording for Vivaldi's *Bajazet*, with Fabio Biondi and Europa Galante. Helmlinger's engineering credits (almost all from the last four years) include opera and solo piano among other classical subgenres.

Here, the engineering is vivid, bringing the piano up close and personal while still sounding like a concert grand and avoiding overbearing bass. **—Stephen Francis Vasta**

scott walker audio

Anaheim • Dallas / Ft. Worth

We represent the BEST digital streamers

1. Aurender N30SA -- *digital transport / network streamer and server*
2. Synergistic Research Voodoo Server-- *roon core and bridge, the future of digital audio*
3. Ideon Audio Absolute Stream -- *award winning audio device catered to the finest music playback*
4. Taiko Audio Extreme -- *exceeding the boundries of audio streaming*

SOUTHWEST AUDIO FEST

Join us at SWAF - Mar 15th - 17th 2024 - Dallas, TX

Anaheim, CA

1215 N Tustin Ave
Anaheim, CA 92807

(714) 630-4100

Keller, TX

1101 Keller Pkwy
Keller, TX 76248

(817) 320-3145

ROCK/POP

THE ALLMAN BROTHERS BAND
Manley Field House, Syracuse University, April 7, 1972

ABB Recording Company (auditioned as CD). 2023. The Allman Brothers Band, prods.; Jason NeSmith, eng.

PERFORMANCE ★★★★★
SONICS ★★★★½

In 1971, the Allman Brothers Band was mourning the passing of guitarist and leader Duane Allman. They decided that the best place to properly grieve was on the road, moving forward with the musical vision he had created. As a five-man band (Gregg Allman on vocals and keyboard, Dickey Betts on guitar, Berry Oakley on bass, and drummers Butch Trucks and Jaimoe), they embarked on a 22-week, 41-show tour that found them, on April 7, 1972, at Manley Field House on the campus of Syracuse University. Recorded and simulcast on the school's station, WAER, the concert in various incomplete forms traveled for years through fan circles as a bootleg. The complete concert is finally being released, pulled from the original source recording and completely remastered.

The 11-track collection features set staples from this period including show opener "Statesboro Blues," "In Memory of Elizabeth Reed," "Midnight Rider," and "Whipping Post," as well as "Ain't Wastin' Time No More" off their then–newly released album *Eat a Peach*. "Syracuse Jam," included here for the first time, is an example of the melody jamming the band was famous for and is unique in that it does not appear in any other known ABB recording.

The sound is remarkably crisp. This five-man orientation presents arrangements the band would never again play in a live setting. Here, Dickey Betts does double duty by replacing the trademark dual leads with perhaps his most impressive playing ever.

This is a pivot point for a band in transition. Six months following this show, keyboardist Chuck Leavell would be added to the group and Lamar Williams would soon take over duties on bass. "Syracuse" is a snapshot of the most important moment in Allman's history, where the surviving members banded together and kept a brotherhood alive.—**Ray Chelstowski**

THE BABYS
Live at the Bottom Line, 1979

Omnivore Recordings (auditioned as CD). 2024. Allan Pepper, Stanley Snadowsky, prods.

PERFORMANCE ★★★★★
SONICS ★★★★½

The Babys were always destined for something more. During their short run in the late 1970s, they ignited the charts with hits like "Isn't It Time" and "Every Time I Think of You." But their most important legacy is the sound they created and how it evolved in bands such as Journey (featuring the Babys' Jonathan Cain) and Bad English (with both Cain and front man John Waite), and in Waite's solo career.

The energy and material that started those journeys can be heard on *Live at the Bottom Line, 1979*, a previously unissued performance at that legendary New York club. Recorded during the Head First tour, the set list included their best-known hits along with three new songs, including "Crystal Ball," an early version of "Anytime." Also on the set list was "Money (That's What I Want)," the first Motown hit famously covered by the Beatles.

Here you are, listening to an arena-ready act in a small setting, and the sonic balance they strike allows the songs to breathe without losing their inherent lift. Always known for their musicianship, The Babys bring muscular guitar leads, keyboard parts that glide effortlessly, and an approach to drums from Tony Brock that's defined by the sharp snap of his snare strikes. Perhaps most impressive is the power, range, and soul of John Waite's vocals: The performance he delivers here places him comfortably with Foreigner's Lou Graham and Bad Company's Paul Rodgers in the ranks of great singers of this style of rock. Like them, his capacity to transfer the showmanship he brings to live shows to an audio-only recording is remarkable. Waite limits audience banter and devotes his talents to making these songs bloom.

For The Babys, touring would end in 1980; within a year, they all went their separate ways. But with *Live at the Bottom Line, 1979*, they showed the world what all the fuss was about.—**Ray Chelstowski**

JAZZ

JIM SNIDERO
For All We Know

Snidero, alto saxophone; Peter Washington, bass; Joe Farnsworth, drums. Savant SCD-2215 (CD). 2024. Snidero, prod.; Kent Heckman, eng.

PERFORMANCE ★★★★½
SONICS ★★★★★

Jim Snidero is a veteran of the jazz wars. Arriving in New York in 1981, at age 23, he was a sideman in important bands and produced 26 recordings as a leader. But until *For All We Know*, he had never made a saxophone trio album. That's surprising given that Snidero is known as both a master and a scholar of the alto saxophone. No format can shine a light on the instrument like a saxophone trio.

This two-track tape was restored by long-time Hendrix producer Eddie Kramer. It sounds outstanding. In this minimalist setting, lacking a chordal instrument, the saxophone is exposed, akin to a quarterback dropping back to pass without linemen upfront for protection.

Turns out, Snidero is a fearless quarterback, and a trio brings out his best. Bursting with ideas, he proclaims them in his huge, pure alto saxophone sound. Expertise in phrasing allows him to shape those creative onslaughts into whole forms. He does not need a pianist or guitarist to fill the open musical space in a saxophone trio.

The title track is a love song of the deepest longing. Snidero plays it so hard that the yearning of "For All We Know" becomes more like soul searching. At the end, he breaks out in a passionate two-minute unaccompanied cadenza, the longest he has ever recorded. He derives subtle, alluring variations from John Coltrane's "Naima" and turns Charlie Parker's "Parker's Mood" into a slow, relentless, bluesy burn. The best may be "My Funny Valentine," where Snidero lingers for eight minutes and keeps discovering new emotional resonances within its famously ambiguous long form.

The rhythm section, bassist Peter Washington and drummer Joe Farnsworth, also sounds inspired by the freedom of the saxophone trio format. Jim Snidero has just made the album of his life.—**Thomas Conrad**

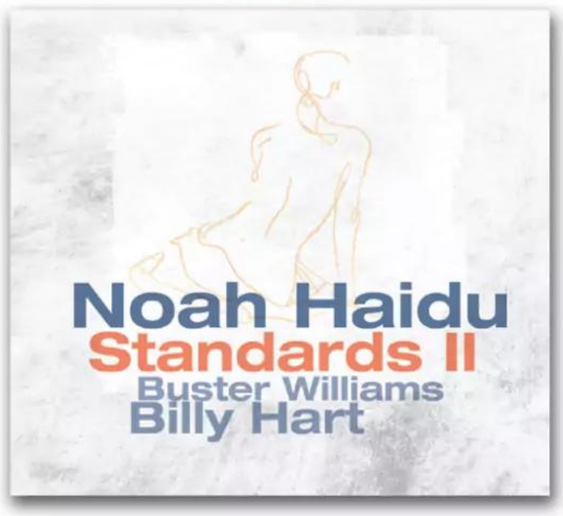
101 X-Treme
MKII
Learn more
mbl-northamerica.com

2023 OVERALL the absolute sound PRODUCT OF THE YEAR AWARD
2024 the absolute sound EDITORS' CHOICE AWARDS

mbl

This changes everything!

JAZZ



NOAH HAIDU
Standards II

Haidu, piano; Buster Williams, bass; Billy Hart, drums. Sunnyside SSC 1739 (CD). 2024. Haidu, prod.; Maureen Sickler, eng.

PERFORMANCE ★★★★½
SONICS ★★★★★

In our present jazz moment, there is more focus on original composition than ever before. In 2023, Noah Haidu bucked the trend and released an album called *Standards*. It was a great example of why some of us hope that jazz musicians never entirely abandon the Great American Songbook. Now there is *Standards II*, and it is bolder and even better.

The first track by itself makes the case for such repertoire. It is "Over the Rainbow," by Harold Arlen and Yip Harburg, a song beloved by the world since 1939. But it begins as a splashing, intermittently eruptive drum vignette by Billy Hart. Then Haidu floats a piano figure into the mix, and then Buster Williams inserts a bass line of powerful notes, widely spaced. Three voices juxtapose separate threads of thought; the sounds they make are evocative but indeterminate.

From the piano, you hear suggestions of a melody, but it is out of reach. When, after seven minutes, you finally recognize "Over the Rainbow," it is a rush. Even then, you only hear fragments; you never hear the famous interval leap at the beginning ("SomeWHERE...").

Haidu's trio, staying in the moment, only brushes the edges of the song. But what they play is derived from, or contains echoes of, or is inspired by, "Over the Rainbow." The song gives their spontaneously evolving 10-minute creation a reason for being, a touchpoint.

Following tracks like "Someone to Watch Over Me" and "Days of Wine and Roses" are more literal portrayals of tunes by George Gershwin and Henry Mancini. But even here, the melodies provide a bare grid within which three daring improvisers are free to discover and dream. This sonically stunning album should be studied by aspiring jazz engineers as a model for how to record an acoustic piano trio.—**Thomas Conrad**

ADAM SCHROEDER & MARK MASTERS
CT!

Schroeder, baritone saxophone; Masters, arrangements; 11 others. Capri 74170-2 (CD, available as LP). 2024. Schroeder, prod.; Talley Sherwood, eng.

PERFORMANCE ★★★½
SONICS ★★★★★

Adam Schroeder and Mark Masters are among the best in jazz at what they do, which is play baritone saxophone and arrange for big band, respectively. They are West Coast guys who would be more famous if they lived in New York.

Masters likes to make albums featuring the work of a single composer. He has arranged music by Clifford Brown, Charles Mingus, Gerry Mulligan, and Alec Wilder. Sometimes he chooses less well-known composers like Jimmy Knepper and Dewey Redman for tributes. *CT!*, a tribute to Clark Terry, belongs in that category.

If you didn't know otherwise, you might assume that these high-class big band tracks were by Duke Ellington or Count Basie. (Terry played in both orchestras.) As a composer, Terry preferred the blues or "I Got Rhythm" changes. Most of these tunes are outbreaks of life-affirming energy and exuberance, like "In Orbit" and "Ode to Pres." A few are slower and lusher, like "Slow Boat" and "Michelle." Whatever the tempo, they swing with a natural grace you don't hear much anymore. Masters's elegant arrangements shape this compact, 12-piece orchestra into a well-oiled machine, a sleek vintage race car.

Schroeder, who played in Terry's big band, was the organizer of this project and the primary soloist. He can knock you down with the power of his big horn (as on "Serenade to a Bus Seat"), but he tames his unwieldy instrument to express nuanced emotion ("Groundhog"). This California band also contains first-rate musicians including tenor saxophonists Bob Sheppard and Kirsten Edkins and drummer Peter Erskine.

In press notes, Masters says, "This style of music and this type of record are becoming more and more infrequent." He is right about that. We need to enjoy music like *CT!* while we still can.—**Thomas Conrad**

CLASSICAL

DINO BETTI VAN DER NOOT
Let Us Recount Our Dreams

Van der Noot, many others.

Audissea ADA 016 (CD). 2023. Van der Noot, prod.; Maurizio Giannotti, eng.

PERFORMANCE ★★★★½
SONICS ★★★★★

Italian composer Dino Betti van der Noot is a scion of a classical music family, studied jazz at Berklee College of Music, and has been active as a performer and bandleader since the late 1950s. He has witnessed all the musical innovations and movements of the last seven decades. That information has been absorbed, transmogrified, and reflected outward in an impressive catalog of releases since his debut album in 1977.

The above is evident less than three minutes into the opening title track of his latest release. After a diaphanous orchestral intro, punctuated only by cymbals, the 23-piece ensemble drops out, leaving Sandro Cerino's dizi (Chinese transverse flute), Vincenzo Zitello's Irish harp, and Filippo Rinaldo's keyboard mimicking a sitar. While only a minute or so in duration, this segment is transportive. Suddenly, a full-band fanfare emerges then quiets to feature slightly atonal piano from Niccolò Cattaneo, but only for a moment, before a brash saxophone-trumpet duel over fusionesque electric bass. In less than half its 13-minute duration, Van der Noot has explored a panoply of moods and textures, neither settling into tropes nor lingering for too long.

This sets the template—or explodes it—for all five tracks across a pithy 56 minutes. The second piece forefronts Emanuele Parrini's violin against brassy splashes, followed by boozy trombone and elegiac trumpet solos. Then Parrini returns in an almost chanson-like setting.

Van der Noot's orchestra—with its typical horns juxtaposed against the strings, plus additions like Luca Gusella's vibraphone and Federico Sanesi's tabla—afford him an expansive palette. He uses it wisely, preferring subtlety and intrigue over bombast. But he can also craft a soaring epic; "High Seas," the shortest track at just over six minutes, is aptly named.—**Andrey Henkin**

NEAVE TRIO
A Room of Her Own

Works by Chaminade, Smyth, Tailleferre, and Boulanger

Chandos CHAN 20238, CD (reviewed as 24/96). 2024. Jonathan Cooper, prod. & eng.

PERFORMANCE ★★★★½
SONICS ★★★★½

Despite the preponderance of classical orchestral blockbusters overplayed at audio shows, a goodly number of us enjoy nothing more than basking in the refined beauties of smaller-scaled chamber music. If you would like to spread your wings beyond the giant guys of the literature, the Neave Trio's exploration of trios composed early in the lives of Cécile Chaminade (1857–1944), Lili Boulanger (1893–1918), Germaine Tailleferre (1892–1983), and Dame Ethel Smyth (1858–1944)—the only non-French woman of the pack—is a must.

Chaminade's Trio No.1 mixes romantic sentiments with a delicacy and beauty all their own. The *andante* is extremely beautiful, the *presto leggiero* an exuberant, darting delight, and the virtuosic piano writing is equally challenging and enrapturing.

All of Boulanger's compositions were early, alas. The sister of famed teacher Nadia Boulanger (who counted Aaron Copland, Astor Piazzolla, David Del Tredici, and Philip Glass amongst her students) suffered from ill health most of her life. While that didn't stop her from winning the Prix de Rome at age 19, she died five years later. The album's two trios by Boulanger are markedly different, the first a standout for its original voice and lively, foot-tapping chromaticism, the second distinguished by its rare beauty and profound sadness.

Tailleferre is a master at expanding lovely, simple, songlike melodies into rhapsodic journeys. In the first movement of her Trio, which she revised 61 years after it was composed, it's hard not to fall in love with the gorgeous tone violinist Anna Williams and cellist Mikhail Veselov bring to their lovely interplay. The great Smyth's early Trio in D minor packs passion, joy, lyrical beauty, and delight into delectable tunes, then ends with enough heartfelt lyricism to earn it a place in many a concert program and many a heart.—**Jason Victor Serinus**

NEBO

Starting at $4200/pair

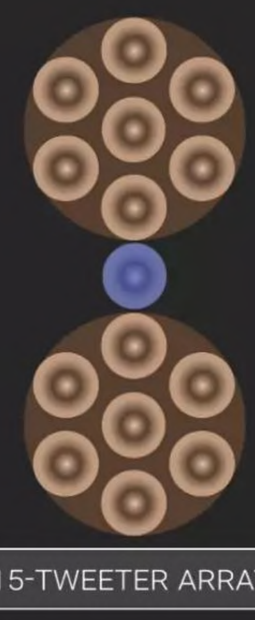
All of our speakers are custom-made by hand at the foot of Mt. Nebo, the highest peak in Utah's Wasatch Range. The Nebo speaker embodies that same power and majesty. Experience the visceral and energetic sound of a live concert right in your listening room.

MOAB BE

Bearing the name of a Utah region that is home to some of the world's most beautiful natural rock formations, the Moab BE is the newest iteration of our best-selling Moab featuring an all-beryllium array of tweeters that will make your music more dynamic, visceral, and engaging than ever before.

PATENTLY DIFFERENT

When audiophiles use the term "perfect midrange" to describe a listening experience, you know you're onto something special. Our speakers feature a patented transducer array that reduces the moving mass of drivers to reproduce midrange to exacting accuracy. And the results are extraordinary.



DESIGN TEKTON

VISIT OUR WEBSITE

GIDON KREMER
Songs of Fate

Works by Šerkšnytė, Kuprevičius, Weinberg, and Jančevskis

Kremerata Baltica, Vida Miknevičiūtė, soprano
ECM 2745, CD (reviewed as 24/96 WAV). 2024.
Manfred Eicher, prod.; Vilius Keras, Aleksandra Keriene, Peter Laenger, engs.

PERFORMANCE ★★★★★
SONICS ★★★★½

Songs of Fate takes us on an extraordinary journey of survival and pain. Far more than a "concept album," it bears urgent witness to violinist Gidon Kremer's roots as a Jew who has spent years in the Baltic states. This intimate, personal statement is intended, in Kremer's words, "to speak to everybody, reminding us of tragic fates along the way and that we each have a 'voice' that deserves to be heard and listened to."

Kremer's violin, Magdalena Ceple's cello, Andrei Pushkarev's vibraphone, and the instruments of Kremerata Baltica speak eloquently as the recently composed "This too shall pass," by Raminta Šerkšnytė, gives way to four works by Giedrius Kuprevičius. Their heart-grabbing melodies and unmistakable roots in Jewish tradition touch deeply. Vida Miknevičiūtė, a remarkably eloquent and gorgeously voiced soprano, sings "David's Lamentation" from the chamber symphony, *The Star of David*, and an interpretation of the sacred prayer, *Kaddish*, that Jews recite in memory of the dead.

Five short works by Mieczysław Weinberg (1919–1996), including three of his Jewish Songs for soprano and string orchestra, intensify the sense of hope, dislocation, and despair that characterize the Jewish struggle for survival over close to six millennia. Kremer has long championed Weinberg's music, which has finally received recognition. Weinberg's cradle song, "Viglid," conveys more than simple sweetness. The program concludes with "Lignum," the shockingly original, breathtaking dialogue with nature and trees by Jēkabs Jančevskis (b. 1992) that thrillingly expands to huge dimensions as it speaks to nature's struggle to transcend impending catastrophe. What words cannot describe, music reveals.—**Jason Victor Serinus**

TRIO ZIMBALIST
Piano Trios of Weinberg, Auerbach, & Dvořák

Josef Špaček, violin; Timotheos Gavriilidis-Petrin, cello; George Xiaoyuan Fu, piano

Curtis Studio PLAT21970 (WAV download). 2024.
Drew Schlegel, prod. and eng.

PERFORMANCE ★★★★★
SONICS ★★★★★

I understand the marketing idea, harnessing a "popular" score like the Dvořák to present newer material more demanding of audiences, as the Curtis-based Zimbalist Trio has done. The question, of course, is who will buy it? How many listeners curious about Lera Auerbach will want *Dumky*?

Weinberg and Auerbach share an angular aesthetic. The dissonances rarely turn abrasive; in *Allegros*, both composers share a penchant for *moto perpetuo* piano writing, Weinberg's one-handed, Auerbach's in octaves. The shadow of Shostakovich hangs powerfully over Weinberg's emotionally ambivalent, folklorish piece, though he brings in a few novelties: As the *Präludium* of the *Präludium and Aria* seems to reach a definitive close, the sustaining violin takes things in a new direction. The composer frequently juxtaposes two of his five available timbres, treating string *pizzicatos* as separate "instruments." The centerpiece of Auerbach's score is its *Andante*, launched by a plaintive, broadly singing cello theme, the piano sprinkling single notes around. The violin's lyrical entry turns bittersweet.

"D*umka*" means "thoughts" in Slavic languages; each of the six *Dumky* sets off a ruminative section with livelier material—until the sixth reverses the order. The slow music isn't all melancholy: elegiac and wistful in the second movement, cautiously optimistic in the third, veering to piercing sorrow in the fifth.

The Zimbalists have the measure of all these scores, though a few scratchy sounds escape both string players in Auerbach's finale. They handle *Dumky*'s tempo changes with assurance and inject a nice friskiness into some of the quicker passages. The sound is vivid, though the perspective is closer than some prefer in chamber music.—**Stephen Francis Vasta**

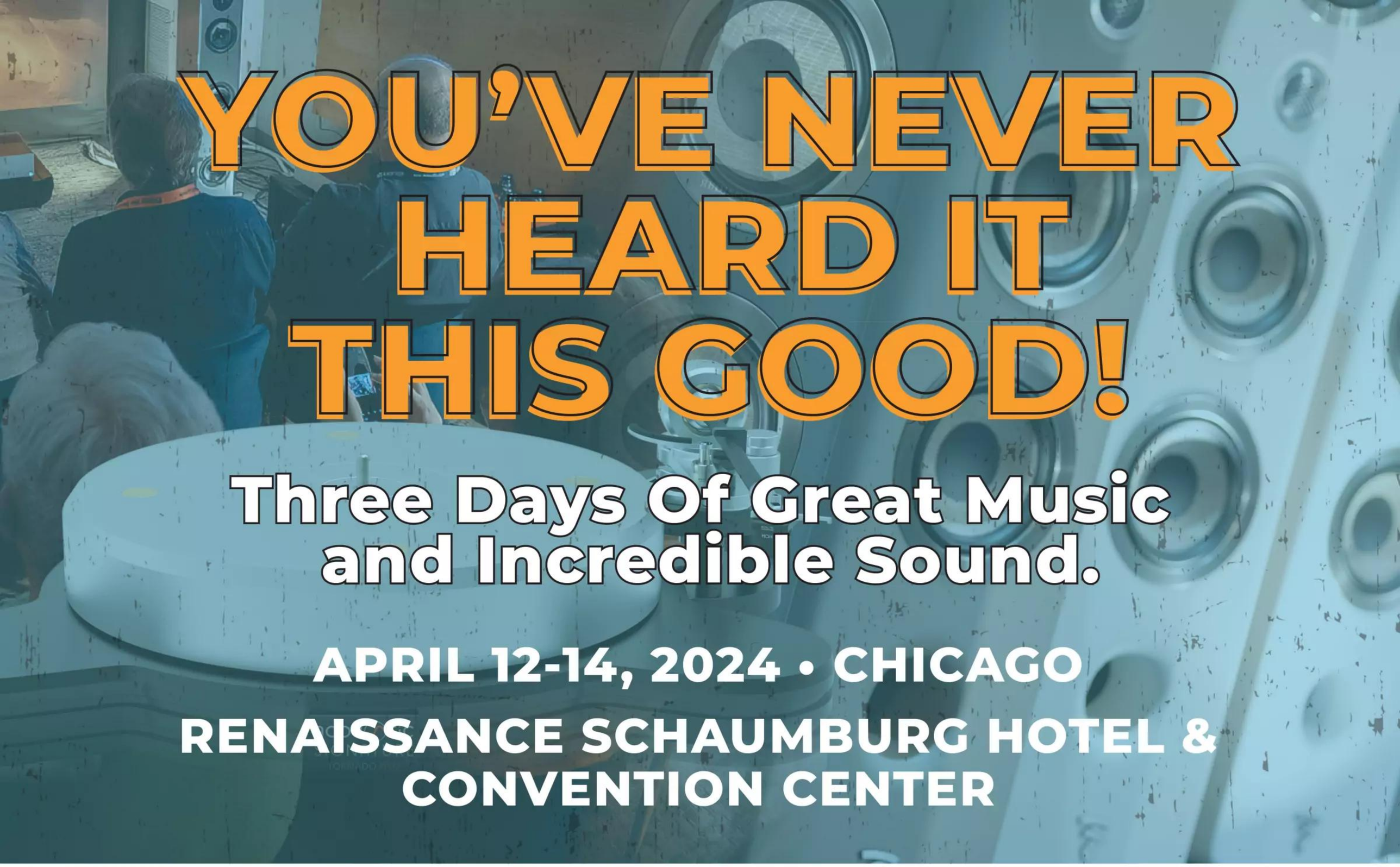
"A superbly well-balanced loudspeaker that gave me extended hours of listening pleasure"
John Atkinson, Stereophile

JosephAudio Perspective2
Graphene
Get the full story at
www.josephaudio.com

"I was astonished ... its pulsing bass line sent shivers down my spine... I recommend it even more highly than I did the original"
John Atkinson, Stereophile

JosephAudio

EVERYTHING YOU HEAR IS TRUE
(800) 474-HIFI (4434)



YOU'VE NEVER HEARD IT THIS GOOD!

Three Days Of Great Music and Incredible Sound.

APRIL 12-14, 2024 • CHICAGO

RENAISSANCE SCHAUMBURG HOTEL & CONVENTION CENTER

AXPONA

AUDIO EXPO NORTH AMERICA

AXPONA is where you can discover the latest gear from the brands you love to create your ultimate listening experience.

Feast your ears on hundreds of exhibits, with more than 200 listening rooms, to really experience what the newest audio products can deliver, including turntables, loudspeakers, headphones, vinyl, electronics and accessories.

"T+A had a great show with good traffic that exceeded our expectations and plenty of serious buyers. Many consumers were asking 'where can I buy?' And we saw dealers from all over the country. AXPONA has become the North American show for us."

Dave Nauber,
Chief Executive Officer for T+A

TICKETS ON SALE NOW! GET YOUR TICKETS AT AXPONA.COM!

For information on exhibiting, contact Mark Freed:
mark@jdevents.com, 203-307-2688

Streaming Sponsor

qobuz

RE-TALES

BY JULIE MULLINS

THIS ISSUE: Aural HiFi's Jeremy Irwin uses what he's learned about vintage hi-fi to guide his customers toward the best system for them, vintage or new.

Vintage hi-fi, old and new

Many audiophiles and serious music lovers are passionate about vintage. Vintage has become a popular "way in" to the hobby, especially popular among younger folks. Reasons vary. Many—perhaps most—are seeking more bang for the buck than you can get buying new. Others prefer classic sound and aesthetics: that special vintage vibe. At least a few inherit or receive vintage pieces from audiophile parents; others come across a beautiful bargain they can't resist. An important niche in our hobby thinks vintage equipment simply sounds better than the new stuff.

Not every vintage piece sounds good, however, and not every piece is a bargain. Some can be quite expensive. And most that aren't are in need of expensive refurbishment to look and sound their best. Even once restored, they usually require more care, maintenance, and patience than a new piece would require. It's a lot to take in for those new to the hobby.

Jeremy Irwin, owner and "stereo archaeologist" at the vintage-focused dealer Aural HiFi in Denver, has been there himself. When I visited the store in late December, Irwin told me about his own audiophile journey, which started with "about 30 Sonos pieces" before he got hooked on vintage. "What really sucked me into this is truly being able to work with my hands," he said. Also: "Vintage audio gear has soul."

Irwin's story isn't your typical internet adventure story. He drove all over the country in a van, à la *American Pickers*, buying equipment. Much of what he brought home needed refurbishment or repair. He did the work himself. He enjoyed it.

Irwin took the time and learned—and now he wants to guide others starting out on their own paths. He aims to educate customers so that they make good buying decisions, whether they buy vintage or new.

That ethos is reflected in what Aural HiFi sells: not just vintage but also vintage-inspired components, mostly with a midcentury modern aesthetic. Irwin started the business about three years ago, online. Later, he opened his brick'n'mortar store and added product lines. The lineup now includes Audio Hungary, Blumenhofer Acoustics, DeVore Fidelity, Fezz Audio, KLH, Leak, Leben, Merason, Quicksilver, Pro-Ject, REL, SOTA, and Wharfedale, among other brands. He sells his own "house" cables as well as analog accessories, a few phono cartridges, and a selection of LPs. On the vintage side, you're likely to see McIntosh amplifiers and tuners and perhaps a Threshold piece. Much of the equipment is displayed on racks and shelves made by Tactile Audio Furniture of Evergreen, Colorado.

Aural HiFi is located in "SoBo," Denver's South Broadway area. Aural's space, which has a large showroom in front and a spacious workshop in back, once housed an antique mall. Windows take up most of the storefront and attract passersby.

Aural's refurbishment and repairs are carried out by three staff technicians and a woodworker, though occasionally Irwin still grabs a multimeter and soldering iron. Due to the high volume of in-house restorations, the shop is currently accepting few repair projects. "We've moved away from customer repairs unless it's full recapping or full restoration," Irwin told me. The shop offers 30-day warranties on most vintage gear; new equipment, of course, carries the factory warranty.

Irwin asks questions to suss out the wants and needs of vintage customers. He tries to gauge their comfort level and abilities. He's likely to ask, "Do you have a multimeter? Have you done some soldering? Are you comfortable with a schematic?" He is upfront with customers about the challenges of owning vintage hi-fi: It *will* need work. "Vintage electronics are like vintage cars," he said. "They're going to need service; things are going to go wrong. It's part of their charm."

Safety can be a serious issue with older gear, which may be in poor condition, sometimes with defects caused by previous inept repair attempts. Years ago, he told me, he "hooked a turntable up to the preamp, touched the tonearm, and magic smoke immediately came out of the amp." A technician told him that power had leaked out to the preamp's chassis. When he touched the tonearm, it closed the circuit, creating current that fried the amplifier. Fortunately, it was fixable, and Irwin wasn't harmed. But the experience underscored the importance of teaching aspiring vintage owners what they should expect.

Safety concerns are especially serious with vintage tube amplifiers because they operate at high voltages. If you're after a tube-based amplifier, as many of his new customers are, he's likely to recommend buying new, not vintage. If a customer wants something that "looks cool" but doesn't want the full hands-on experience, Irwin will guide them toward something new and user-friendly with a vintage vibe. Many heritage hi-fi makers—JBL, Mission, NAD, McIntosh, Klipsch, Wharfedale, others—have released reproductions of classic vintage components with new, more modern materials, features, and functions.

Other manufacturers, like Leben and Fezz, simply embrace a vintage aesthetic.

One tip Irwin emphasized for owners of vintage equipment: "You should always have a backup amp. Have something, even if it's a digital piece," he said. "If you're going to be rocking vintage gear, and it's a big part of your life, it's going to hurt when your amp's down."

Notice that he didn't say "if" your amp's down, but "when." With vintage hi-fi, there *will* be failures.

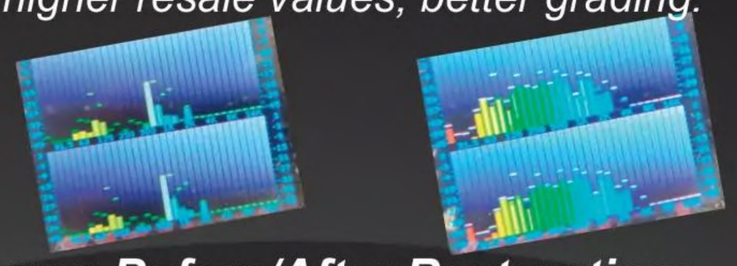
"I try to meet people where they're at," Irwin told me. "Not just put people in something because it makes us more money, but something they're comfortable with and that's right for them." He wants to sell hi-fi—new or old—that customers will enjoy with their eyes and ears, in whatever way suits them best. ■

MAGICO

ALL NEW S3

scott walker audio
CA: (714) 630-4100 • TX: (817) 320-3145

When buying used records, look for the "Restored by Kirmuss" mark.
As seen on Discogs, Kirmuss restored records see higher resale values, better grading.



Above: Before/After Restoration:
*Increase in soundstage, imagery, and frequency response of a **NEW** record.*

MONTREAL SHOW SPECIAL
$994.00

Voted best analog system accessory!
RESTORES 4 records in 18-25 minutes.
1.3 to 3-4 dB gain over floor.
8-38% increase in frequency response.
Hear the Difference. Results guaranteed!
WWW.KIRMUSSAUDIO.COM
(303) 263-6353
e/m: charles@kirmussaudio.com

VooDoo CABLE
THE ART OF HIGH RESOLUTION AUDIO

The Radically Cost-Effective Sonic Upgrade for Your Entire System

2023 the absolute sound EDITORS' CHOICE AWARDS

Iso·Pod

Set of 3 - $249
Set of 4 - $449
In Silver or Black

Component Isolation System
VISIT US AT WWW.VOODOOCABLE.NET

CABLE COMPANY
AVAILABLE AT
THE CABLE COMPANY 800.328.9973
Cable@TheCableCo.Com

Another Great usedcable.com

Plug into our 30 years of high-end cable expertise

- 1 Year Warranty
- 30 Day No Hassle Exchange
- Free Shipping over $50
- Free System Consultation

usedcable.com
800-328-9973
usedcable@usedcable.com
UsedCable.com is a trusted Cable Company joint

The Vinyl Cleaner PRO X
for vinyl lovers
The only fully automated, ultrasonic and mechanical cleaning system for the ones you love.

Audio Desk Systeme
Vinyl Cleaner PRO X

215-862-6570
ultra@ultrasystem.com

Allentown, PA
www.BEKhifi.com
Next to Double Decker Records
Thousands of quality LP's
610-351-0764

DeVore Fidelity • Harbeth • Magnepan • Mission • KEF
Marten • Klipsch • Triangle • Wharfedale • HiFi Rose • Leben
Chord Electronics • Accuphase • Line Magnetic • Luxman
Hegel • AirTight • Rogue Audio • Sugden • Innuos • Koetsu
Kuzma • Feickert • Rega • Brinkmann • Mofi • Hana • darTZeel
Dynavector • Soundsmith • Ortofon • EMT • DS Audio • Nordost
Analysis Plus • Shunyata • Auditorium 23 • IsoAcoustics
Sutherland • Lehmann • HRS • Degritter • Sbooster and more...

Is it master tape or is it Safir 9?
40 years continuous revolution

Exclusive USA distributor: Elite Audio Video Distribution, Glendale, CA / 818-245-6037
www.eliteavdist.com; scot@eliteavdist.com

Selected US dealers:
Upscale Audio
La Verne, CA 91750 / 909-931-9686
kat@upscaleaudio.com

MoFi Distribution
1811 W Bryn Mawr Ave, Chicago, IL 60660
norberts@mofi.com

hi-fi+ WINNER 2022

Kuzma Ltd, Slovenia • www.kuzma.si • kuzmaltd@siol.net

MSB DAC OWNERS

HERE IS THE ULTIMATE UPGRADE
FOR YOUR MSB SELECT & REFERENCE DAC:

- SRX MSB SPEC DC POWER LEADS - $5995
- (2) SR PURPLE FUSES - $199/EA

** IN HOME AUDITIONS AVAILABLE **

SYNERGISTIC RESEARCH
NEVER COMPROMISE • SYNERGISTICRESEARCH.COM

scott walker audio
CA: (714) 630-4100 • TX: (817) 320-3145

To advertise, contact Ed DiBenedetto
917.662.6936 · edibenedetto@avtechmediausa.com

AUDIO ART
Since 1976

VIRGINIA'S OLDEST
HIGH END ESTABLISHMENT

Acoustic Energy, Acoustic Signature, AVM, Ayre, Canton, Cardas, Clearaudio, Eversolo, Fezz Audio, Fyne, Gold Note, Grado, Hana, Hegel, Jeff Rowland, Martin Logan, Music Hall, Ortofon, Proac, ProJect, Rega, Shunyata, SME, Vertere, Weiss.

804.358.5300
www.audioartusa.net
audioartusa@aol.com

Image courtesy Geek3

LONG ISLAND, NEW YORK

Arcam, Audeze, Audience, Audio Desk, Audioquest, Berkeley Audio Design, Bryston, Cardas, Conrad-Johnson, Clarus, Esoteric, JBL Synthesis, Jeff Rowland, Hegel, Isotek, Koetsu, Lexicon, Lyra, Mark Levinson, Lumin, Martin-Logan, Meitner, My Sonic Lab, Oracle Audio, Ortofon, Purist Audio Design, Plinius, ProAc, Revel, Rogers Fidelity, SME, Sony ES/XBR, Stax, Sutherland, Symposium Acoustics, Tannoy Prestige, Totem, Triangle, Tsakiridis, VPI, and many more.

Large selection of fine pre-owned gear, quality trades welcome, analog guru on board

New York Sound & Vision (631) 321-8969
or visit www.newyorksoundandvision.com

Audiophile Essentials
EDITOR
CD PACKAGE
shop.stereophile.com

You Can Build Great Sound

The GT-102 Stereo Amplifier is a Stereophile Class B recommended component. High praise, given its low price.

The PR-102 is a versatile preamp that pairs perfectly with the GT-102. You can add a remote control, headphone amp, or an MM phono preamp.

Hundreds of audiophiles enjoy the great sound of these components. They are available in kit or assembled form. Kit builders get an extraordinary value, a fun project, and a great feeling of accomplishment.

For more information, go to
www.akitika.com

AkitikA

STEREOPHILE ADVERTISER INDEX

Accuphase	74
Acoustic Signature	41
Alta Audio	48
American Sound	134
Analog Matters	16
Antipodes Audio	146
Aqua Acoustic Quality	23
Audio Advice	70
Audio Research	10
Audio Skies	90
Audio Ultra	125
AudioQuest	79
Aurender	72
Axiss Audio	6, 74, 88
AXPONA	188
BEK HiFi	191
Bel Canto	148
Benchmark	100
Bowers & Wikins	62
Burmester	166
The Cable Company	14, 15
CH Precision	95
Clarus	60
Clearaudio	86
Crystal Cable	195
Dan D'Agostino	77
David Lewis Audio	162
dCS	129
DS Audio	66
Dynaudio	110
Elusive Disc	180
Emotiva	132
Esprit Audio	154
Estelon Audio	158
EverSolo	144
Excel Audio	170
Feliks Audio	126
Ferrum Audio	118
Fezz Audio	58
Fidelis Distribution	52
Focal Naim America	142
Franco Serblin	6
GoldenEar	55
Gryphon	138
Hana	36
Harbeth	52
Harmonia Distribution	26, 126, 160
HiFi Rose	Back Cover
I-O Data Device	178
Jim Suhre	176
JL Audio	8, 9
JMF Audio	90
Joseph Audio	187
KEF	51
Kimber Kable	156
Kirmuss Audio	190
Krell	18
Kuzma	191
Lumin	85
Luxman	38, 96
Magico	2
MBL	184
Melco	38
Monitor Audio	81
Morrow Audio	47
MSB	104
Music Direct	20, 21, 56, 172
Nordost	168
Notable Audio Imports	82
Now Listen Here	165
Ortofon	106
PAD HiFi	121
Paradigm	152
Pass Laboratories	140
PrimaLuna	26
PSB	29
Rogers High Fidelity	93
Rogue Audio	35
Schiit Audio	114
Scott Walker Audio	182, 190, 191
Sierra Sound	98
SME Limited	32
Soulutions	88
Sound by Singer	102
The Sound Organisation	116
Source Systems LTD	85, 178
Stenheim	185
Stromtank	31
SVS	108
TAD Labs	121
Technics	25
Tekton	186
TIDAL Audio	43
Ultra Systems	191
Underwood HiFi	136
Upscale Audio	44
Used Cable	190
VAC	122
Vandersteen Audio	112
Vitus Audio	131
The Voice That Is	43
VooDoo	68, 190
Weiss Engineering	64
Wilson Audio	4
Wireworld	150
Wynn Audio	12

The Ad Index is provided as a courtesy. The publisher is not liable for incorrect information or excluded listings. Advertisers should contact their sales representative to correct or update a listing.

MANUFACTURERS' COMMENTS

THIS ISSUE: Representatives of The Wand, Thrax, Tekton, and Wharfedale respond to our reviews of their products.

The Wand 14-4 and 12" Master Lite

We would like to thank Michael Trei and *Stereophile* (The Spin Doctor, January 2024) for the thoughtful review of The Wand 14-4 turntable and 12" Master Lite tonearm. Trei's review touched on the core of Simon Brown's design goal: an LP playback system that finds the heart of the music in the LP groove at an approachable price for such exalted performance. In Trei's words, "The Wand excels in areas I consider fundamental to musical enjoyment, such as tonal color and timing."

We have already addressed most of the setup points that Trei took issue with. Wand tonearms now ship with a clear plastic protractor that is simpler to use and eliminates edges, metal or otherwise, from the alignment area. The alignment process has gone from a "heart-pumping challenge" to a simple visual alignment of protractor and tonearm and the lowering of the stylus onto an engraved target, addressing overhang and alignment simultaneously. A new, micro-adjustable, "sled"-style base is now standard with all Wand arms so that overhang adjustment is quick and easy, just by literally "dialing it in." Once set, the sled is locked down with two screws to eliminate the possibility of vibration or resonance. For the original arm, we can provide special long "top nuts" for cartridges with unthreaded mounting plates, and we're revising the mounting instructions for ease of use.

We are sending Trei all the new components so that he can implement the changes and see and hear for himself that we are always listening and making things easier without sacrificing the unparalleled performance for price that so impressed Art and Michael: "In my view, those idiosyncrasies are more than offset by the Wand's extraordinarily good sound—and by its exceptional value for the dollar," Art wrote. Or, as Michael put it, "When it was done, all the pain and struggle was forgotten as I fell into the music."

Bob Clarke, Profundo
Simon Brown, Design, Build, Listen

Thrax Siren

I would like to express sincere gratitude to the team at *Stereophile* for noticing our little gem and giving it a voice in the publication.

Martin's very positive comments on the sonic performance of the Sirens and John's measurements confirming the uniqueness of the Siren's design encourages us to continue the development of our speaker line. The Lyra introduced the unique horn driver we use, and now the Siren blends it seamlessly with one of the world's best midwoofers. Sirens are small, and the low-frequency performance is phenomenal for the size courtesy of the Purifi woofer, but as noted by John, it comes at the cost of reactive impedance below 120Hz, so choose your amplifiers wisely for best performance.

As always, there are things to improve, and Thrax Audio has an ongoing research program that tackles the different causes of audible artifacts. At the other extreme of our speaker range is the Basus motional feedback woofer system, bringing to the lowest octaves the same dramatic improvement in distortion and phase linearity, where the flexibility of the built-in crossover allows its use with any speaker, including the Sirens, so as one would guess one day they could be merged into a single product covering the full audio range with exemplary performance.

Thrax Audio has been moving administration and electronics assembly over the last 6 months to a new location and has now started moving the mechanics manufacturing facilities to a much larger building, so once completed, we will be doubling our production capacity, and the introduction of new models derived from our research projects in digital processing, amplification, and acoustics will follow shortly.

I encourage the brave to go and hear the Siren's song and see if you can resist.

Rumen Artarski, Founder and Designer
Thrax Audio

Tekton Moab Be

It's no secret that I'm a fan of lower-impedance loudspeakers, and I'm confident that any higher-wattage modern amplifier will easily couple with the Moab Be. We're known as a bespoke custom shop, so getting the impedance an ohm higher for a specific client is as easy as substituting an inductor; providing a client with an 8 ohm version for use with a tube amplifier is also a simple task.

In my opinion, the audiophile realm continually lags behind professional audio and car audio in new product development, and there is not enough design/engineering crosstalk and collaboration among the three. I've been fortunate to work in all three. Most audiophiles have no idea that 0.5 ohm, 1 ohm, and 2 ohm impedances are commonplace in professional and car audio today. My ears have always loved big and exciting sound, and I've learned the best way to accurately convey such musical dynamics: with lower impedances and higher wattages. I believe the symphony conductor has the best, most expansive, and enveloping listening position possible. Are audiophiles aware that Rihanna performs through 100 18" subwoofers? Is the audiophile industry offering products that simulate such experiences? Tekton Design is focused on bridging these gaps.

We appreciate the fair and insightful review of our Tekton Designs Moab Be loudspeakers and the professional association we enjoy with *Stereophile*, a pillar of the media in this audiophile community. I am grateful for the constructive comments we receive from our customers, colleagues, and critics; each contributes to our ability to continue to innovate and offer affordable, world-class loudspeakers to this exciting market.

Eric Alexander
Tekton Design

Wharfedale Heritage 90th Anniversary Dovedale

I would like to thank John Atkinson for his time and effort in crafting this honest editorial and the accompanying measurements.

The Wharfedale Dovedale is a new, high-performance, full-range loudspeaker; a beautifully designed and masterfully constructed piece of furniture offering an exceptional level of refinement and a midcentury modern–inspired design; a fairly large three-way with a vintage look; the reintroduction of British manufacturing class and quality to the Wharfedale brand; the new top of the line in the immensely successful Wharfedale Heritage series; a source of early-1970s sound that brings out the energy of a performance—a very positive memory and emotional connection for designer Peter Comeau.

Ultimately, it's a stunning-sounding musical transducer that can operate flawlessly in countless acoustical environments. It may not be budget priced, but customers have flocked to it since its recent entry into the marketplace. Engineered and built to an exacting standard, the Dovedale is astonishingly musical with all genres of music.

Thank you, *Stereophile*, for an outstanding review that tells a great story about the magnificent Wharfedale Dovedale.

Lionel Goodfield, Public Relations & Marketing
MoFi Distribution

MY BACK PAGES

BY ROGIER VAN BAKEL

THIS ISSUE: A search for the perfect hi-fi goes too far.

What price perfection?

When Ken Fritz died, many people wondered what would become of his stereo system. Fritz's rig was the stuff of legend. The audiophile from Chesterfield, Virginia, had built much of it with his own hands, including line-array speakers too tall to fit in most people's homes. They took 5400 hours to complete and were appraised at more than $200,000. He also designed and built a three-arm turntable that sat on a unique 1500lb antivibration platform. Fritz felt that his "Frankentable" rivaled or bested record players costing well into six figures.

That was just the beginning. In the 1980s, when he started dreaming about building "the best stereo system in the world," Fritz decided he'd need a room to match, so he built that, too, using a celebrated concert hall in Osaka, Japan, as a virtual blueprint. With frequent help from his children and a few friends, he transformed the living room of his family's split-level suburban ranch into a 55' × 30' music space with a ceiling that varies between 12' and 17' tall. 24,000 cubic feet of acoustic splendidness.

Few of us would know about Ken Fritz's single-minded pursuit if it weren't for the 58-minute film his son Scott, an audio engineer in Chicago, made in 2018. *One Man's Dream*, Scott called it—a title that subtly removed himself and the rest of the family from his dad's obsession. The video racked up two million views on YouTube.[1]

When I watched it a few years back, Fritz's monomaniacal devotion to superb sound impressed me, but I was also struck by his rigid adherence to symmetry, which sometimes seemed to come at the expense of the room acoustics he'd worked so hard to perfect. Against the front wall of his majestic listening space stood two identical grandfather clocks. Like the pair of foot-tall ceramic Nipper dogs, they were carefully placed so that each long side of the room mirrored the other. A telltale fact I noticed was that the ticking clocks' pendulums swung back and forth in unison, the end points of their sweeps perfectly synchronized. This was the room of a man who was no stranger to OCD-like excess.

One Man's Dream also gave viewers an offhand glimpse into Fritz Sr.'s darkening future. He'd just been diagnosed with ALS, an incurable neurodegenerative disease that slowly robs patients of muscle control. By 2020, Fritz had difficulty talking and swallowing. Soon, he no longer had the fine motor skills to handle his 28,000 vinyl records or his multiple tonearms. An iPad with Roon still let him pick music and listen—for a while. In April 2022, shortly after his 80th birthday, Ken Fritz passed away.

I'd love to say, "But his system lives on." Fritz said many times that he wanted it to stay intact. His family tried to find a buyer for the collection of equipment, bundled with the house if need be. No takers emerged. So last fall, an online-auction company catalogued the turntables, the speakers, the many Krell amps and crossovers and various bits and bobs, and sold them all piecemeal.[2] The Frankentable went for just under 20 grand. The speakers fetched $10,100. All day long on November 30, buyers carted off their new possessions in U-Haul trucks after collectively forking over $156,800. Fritz's system, said to have cost a million dollars, scattered to the winds.

It seemed like a sobering enough tale. A friend of mine quoted *Ozymandias*, Percy Shelley's famous poem about how fate and the ravages of time lay waste to ambition and hubris. ("Look on my Works, ye Mighty, and despair!")

But the complete Fritz saga hadn't been told yet. This past January, the *Washington Post* published a front-page profile[3] of the man that set the audiophile world abuzz. Although the article, by Geoff Edgers, one of the paper's best reporters, was far from unsympathetic, some saw it as a hit piece. Fritz's life no longer seemed the stuff of somber 19th century sonnets. Greek tragedy might be more like it.

Edgers, who knew Fritz personally and had taken notes for years, calls the reputed million-dollar price tag of the vaunted stereo system "a number that did not begin to reflect the wear and tear on the household, the hidden costs of his children's unpaid labor."

The article details how Fritz often treated his family as an afterthought—a distant third priority after his successful fiberglass-molds business and his precious listening room. Vacations were a rarity for the Fritz clan. To his credit, he belatedly understood that he'd made some doubtful choices, as he told Edgers. "I was a father pretty much in name. I wasn't a typical father or a typical husband."

Adding to the exposition of family turmoil was the description of a first wife said to drink too much and to be dismissive of her husband's passions. When he played *Swan Lake*, his favorite piece, she called it "Pig Pond" in front of the kids and cranked up the TV to annoy him. The marriage ended in divorce.

Meanwhile, Ken sometimes dragged his young sons out of bed at 6am to work on the stereo project. "I was basically his slave," Kurt, the oldest child, told Edgers.

Years later, after the ALS diagnosis, Kurt and Ken had a horrible falling out, the *Post* article said. It focused on a couple of relatively modest family possessions Kurt wanted, including an old Rek-O-Kut turntable. The son also took offense at his dad's reluctance to share the fruits of their collective labor with him when he visited the magnificent room and stereo. Kurt thought Ken was being selfish and miserly. Ken felt Kurt acted arrogant and entitled. After a few drinks, Kurt said something from which neither man could recover. According to the *Post*, he told his father, "I need you to die slow, motherfucker. Die slow."

Ken called his lawyer and disinherited his son. Four years later, his daughter Betsy pleaded with her dying father to take a phone call from Kurt that might have eased the men's mutual guilt. Stubborn till the end, Ken refused.

In the 3500+ comments appended to the *Post* story, many went beyond pointing out that Fritz's passion came at the expense of his family. Some commenters went so far as to claim that Fritz wasted his life. That's a judgment he probably didn't deserve, as we'll see. ■

The last part of the Ken Fritz chronicle will appear in this space next month.

1 See youtube.com/@kenfritz3813.

2 See shorturl.at/rxJVW.

3 See shorturl.at/ilvyJ.

CrystalCable®

20 YEAR ANNIVERSARY

MUSIC

THROUGH TECHNOLOGY

www.crystalcable.com

U.S. inquiries:
Aldo Filippelli - VP of Sales & Business Development
aldo@internationalaudioholding.com

rose

HiFi Rose RS130 Ultimate Network Transport

Your Gateway to Flawless Network Audio.

TIDAL roon qobuz Listen on Apple Music

Advanced Fiber Optic Connectivity

Experience pristine digital performance and eliminate noise with our fiber optic technology. By adopting fiber optic Ethernet and USB connections, we provide a completely isolated network environment, blocking both physical and digital noise sources. Simply add a SFP to LC multimode transceiver and say goodbye to interference and enjoy a pure audio experience with seamless transmission from storage devices to your DAC.

High-Precision OCXO

Experience unparalleled audio precision with our high-precision OCXO technology. By adopting this advanced clock source, RS130 provides a more accurate and stable clock signal, unaffected by temperature changes. Say goodbye to jitter and enjoy a consistently stable and precise clock, resulting in exceptional audio quality.

Applied SSD for Music Caching

RS130's built-in SSD cache enhances playback stability and minimizes delay errors. By eliminating vibration, noise, and potential streaming interruptions, you can enjoy uninterrupted music from both local storage and network sources.

MoFi MOFI DISTRIBUTION

Learn More & Shop Online HiFiRoseUSA.com

Distributed in the U.S.A. & Canada by MoFi Distribution

info@mofi.com | 312.738.5025 | mofidistribution.com

All Spotify trademarks, service marks, trade names, logos, domain names, and any other features of the Spotify brand are the sole property of Spotify or its licensors.
Apple Music services are protected as registered or unregistered trademarks owned by Apple Inc. and its subsidiaries. All other trademarks are the property of their respective owners.